

“ALASKANS FIRST” GAS PIPELINE

PROPOSAL

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Executive Summary

Application for Alaska Gas Line Inducement Act License

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Introduction

Little Susitna Construction Company of Anchorage, Alaska, and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation (Sinopec), are submitting a proposal for the Alaska State AGIA project.

Little Susitna Construction Company (LSCC) is a 28 year old Alaska company. It has offered full service Architectural, Mechanical, Electrical, Civil and Structural engineering services since 1980. LSCC holds the following Alaska state licenses: Architects and Engineering Company (No. 584), Architectural (A-3765), Civil/Structural (CE 8467), Electrical / Engineering (EE-4499), Mechanical Engineering (ME 4498), General Contractor (No. 8966), Electrical Contractor (No. 522, 1155), Mechanical Contractor (No. 213), Business licenses no. 149429, 127170. LSCC also holds architectural, engineering, and/or contractor license in 11 states, including California, Oregon, Washington, Hawaii, Missouri, Texas, Louisiana, Mississippi, Alabama, and Georgia.

LSCC has done many architectural and engineering designs for ARCO and the North Slope Borough in the 1980s with a total construction cost of over \$340 million. LSCC helped ARCO develop the Kuparuk Oil field and City of Barrow underground utilidor project. The company also designs schools (Anchorage Service High School Swimming Pool and Dillingham school), hotels (Anchorage Marriott Hotel), office buildings (Anchorage Fifth Avenue Office Building), airports (Elim, Pt. Lay, Petersburg), medical clinics (ARCO Kuparuk, Togiak, Savoonga), aircraft hangers (Elmendorf AFB, Kulis National Guard), roads (arctic haul road inside ARCO camp), housing (Kodiak USCG, Sitka, Dering, Buckland), commercial buildings (NAPA Kotzebue, Gallo Restaurants in Anchorage and Fairbanks), environmental cleanup (Juneau Federal Building PCB, Ft. Richardson contaminated soil), and SCADA, communication (ARCO Kuparuk Oil Field SCADA communication building and microwave tower, Anchorage water and waste water utility wide-SCADA system Group 1,2, phase 2B, Anchorage TV Cable attachment citywide installation, AWWU Ship Creek SCADA control center).

Demonstrating quality construction inspection and construction management, LSCC was the project construction inspectors for the nationwide U.S. Coast Guard construction project for 10 years (1993 to 2002) with a total construction cost of \$1.5 billion. Throughout our 28 year history, our headquarters has been in Anchorage. LSCC has received more than 100 citations and commendations from the U.S. Government, State and local governments and private sectors. LSCC has never defaulted on any one of its hundred of project and has licenses in 11 states, including Alaska, Washington, Idaho, Oregon, California, Texas, Missouri, Louisiana, Mississippi, Alabama and Georgia. LSCC's clients include the U.S. Air Force, U.S. Navy, U.S. Army, U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. GSA, U.S. Fish & Wildlife Service, U.S. Postal Services, Army and Air Force National Guards, State of Alaska, local governments and schools districts, and many private individuals and clients.

Zhongyuan Engineering and General Construction Company of Sinopec, ZPEB SINOPEC is a division of Sinopec, China's largest producer and marketer of refined oil products. ZPEB SINOPEC owns 5 large oil fields, 20 natural gas fields, 10,000 miles of oil and gas pipeline, LNG plants, 30,000 gas stations, is the largest supplier of major petrochemical products and second largest producer of crude oil. It has an Oil and Gas Exploration division, oil refineries, LNG plants, Oil and Gas Pipeline division, and an international division that operates oil fields, gas fields, pipelines, and oil and gas distribution projects in Qatar, Saudi Arabia, UAE, Sudan, Kazakhstan, and Ecuador, South America. ZPEC Sinopac company has designed, financed and is building a 36" diameter, 2200 kilometer National gas pipeline from Sichuan to Shanghai in one the mountainous regions in China. The line when finished is 2009 will billions of cubic meters of gas annually to China's largest city.

Zhongyuan Engineering Design Institute Sinopec (ZYEC SINOPEC) was established in 1980 and is the backbone of Sinopec. Headquartered in Pu Yang City, China, it has over 100,000 engineers and design personnel and oil field workers in a city of 400,000, all working for Sinopec, it has all the certificates issued by the Chinese government required to design and manufacture LN G, CNG, NGL plants, oil refineries, conduct exploration of oil and gas, pipeline design, pump station design for oil and

compression design for natural gas. The Sinopec Company has a worldwide employee base of more than 500,000 with annual revenues over \$125 billion U.S. Dollar and ranks #17 in the Fortune Global 500 Companies in 2007.

The Little Susitna Construction Company (LSCC) and China Petroleum Chemical Corporation (SINOPEC), three major divisions of ZPEB (construction, engineering, and exploration and manufacturing), ZYEC (Design Institute and Engineering), and ZPEB (International Operations) create a team for this project providing Alaskan experience and one of the most experienced teams the engineering design, general construction, oil and gas field production and transportation liquefied Natural Gas (LNG), Natural Gas Liquid (NGL) and Gas Treatment Plant (GTP) plants in the world. We are looking forward to serving all Alaska.

Project Overview:

LSCC of Anchorage, Alaska and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation (Sinopec), are a team for submitting a proposal for the Alaska State AGIA project. Sinopec is one of the two largest petro companies in China, currently ranked no. 17 of Fortune Global 500 companies. A teaming agreement has been signed between LSCC and ZPEB Sinopec in Henan, China, on Oct. 24, 2007. This agreement enables LSCC to apply for the pipeline license with 100% financial, engineering, and any required resource backup from Sinopec.

A letter of intent was received on November 13, 2007 that ZPEB SINOPEC has confirmed that they intend to procure an estimated 4 BCF/D natural gas from the pipeline project of Alaska State after it is converted to liquid natural gas.

After the State of Alaska selects LSCC to receive the AGIA license, a new contract will be signed and a new legal entity, “Alaskans First” Pipeline Service Company (AFPS), will be created to develop a preliminary plan to build a natural gas pipeline and related facilities. This plan will include design of the pipeline, compressors; liquid natural gas liquids plant (NGL), liquid natural gas plant (LNG), marine terminal, NGL, and LNG storage facilities. The buyers will lease a fleet of 24 LNG ships to transport LNG to the Alaskan communities and the world market. Sinopec will ask the China government’s permission to fund the portion of the project not funded under the U.S. Government guaranteed bond and agree to buy all the LNG and the natural gas liquids from the project not used in Alaskan communities for heating and generating electricity.

The design capacity will enable Alaska to transport approximately 4 BCF/D from the North Slope to market in Alaska and the Far East according to the shippers’ interest. This pipeline and related facilities will be designed to provide up to 1 BCF/D capacity to the customers, depending on the demand of the market and economic feasibility and shippers’ interest. The demand for pipeline expansion will be evaluated at least every two years as new gas is discovered, and the expansion will occur when there are sufficient quantities of gas to ensure an economic project.

The components of the new Alaska gas pipeline are as follows:

1. At the North Slope, Prudhoe Bay, a natural gas treatment plant will be constructed (GTP), to remove CO₂, dehydrate the gas, and produce sales quality gas;
2. From the existing gas field, a gas transmission pipeline to the GTP will be constructed by the shippers;
3. From the North Slope to Valdez along The Alyeska Pipeline System, a 48” diameter main Alaska gas line will be built (800 miles) of steel pipe, spec. X70 steel, 1” thick,

65K psi yield strength with 14 compressor stations according to the shippers' interest;

4. One 24" spur line 190 miles long from Glennallen to Beluga River Field will be built of X70 steel, 3/4" thick, 65K psi yield strength, to feed the Enstar Gas Company for sale to Southcentral Alaska; the same line also to feed CEA to generate electricity for the same region;
5. The buried main line will follow the existing Alyeska Oil Pipeline System spaced apart at a safe distance to the City of Valdez and terminating at Anderson Bay, just 2 miles west of Alyeska Oil Terminal;
6. At Anderson Bay, a liquid natural gas (LNG) plant and a natural gas liquids (NGL) plant will be built to liquefy the natural gas and separate and process the liquid petroleum products;
7. Marine terminal with a 20 million gallon LNG storage yard for LNG tanks and NGL tanks will be built to load the product onto ships;
8. A fleet of 20 ships with 150,000 m³ to 185,000 m³ capacity will be built and leased by buyers to transport the LNG and other liquids to the Far East market; a fleet of 4 ships with 75,000 m³ capacity will be built or leased by buyers to ship LNG to 11 Alaska communities.
9. All the above information is subject to final design calculations.

The GTP would be located on the North Slope, next to the central gas processing facility (CGF) plant. It is believed the GTP should be built by the shipper in conjunction with the existing CGF plant if it is needed. This GTP plant would be designed to remove carbon dioxide (CO₂), hydrogen sulfide (H₂S), oil, drilling mud, water, and other impurities from the raw natural gas to meet the transport natural

gas specifications. The gas will be compressed and chilled at the GTP prior to feeding into the first compressor station and injecting into the gas pipeline. The 48” main line from the North Slope to Valdez is about 800 miles long.

The spur line of 24” diameter pipeline from Glennallen to Beluga River Field is about 190 miles long. It has been explored by Alaska Natural Gas Development Authority (ANGDA). If built, it will provide cheap electricity and home heating for Southcentral Alaska. ANGDA is welcome to build, finance and operate this spur pipeline.

This 24” spur line can be built at the same time or earlier as the mainline construction from the North Slope to Valdez. Once this line is built, it will solve all of Southcentral Alaska’s energy needs. Other instate use can be extended to Fairbanks, the Yukon River, and even tidewater communities on the Coast, such as Kodiak, Dillingham, Bethel, Nome, Kotzebue, Valdez, Juneau, Sitka, Ketchikan, St. Paul, Dutch Harbor, and other small villages along the Kuskokwim River, Inside Passage and St. Lawrence Island by shipping LNG and propane supply to heat the homes and generate electricity in many areas of Alaska. Instead of paying the projected \$600 to \$800 on heating and electric bills every month, Alaskans can reduce their costs to 1980’s levels of \$200 per month for the next 30 to 50 years with this “Alaskans First” gas pipeline. With continued exploration of new gas field, this cheap gas can last another century.

The “Alaskans First” pipeline can be started as soon as all the permits are secured and the financing is in place by LSCC/Sinopec. All the components of this “Alaskans First” segment could complete engineering design, plans, and start up construction within four years’ time. South Central Alaska would receive the gas by 2020 before the Cook Inlet gas field runs out and leaves the Greater Anchorage area without gas to heat homes and generate electricity.

The fast-track approval would also allow for construction of the main gas line from the North Slope to Valdez parallel to the existing Alyeska Oil Pipeline and terminal at 2 miles west of the oil terminal at Anderson Bay where LSCC/Sinopec will design and build an LNG plant and an NGL plant to

extract hydrocarbons from the natural gas such as propane and butane and other petroleum products. A large storage yard with 20 million gallon storage capacity for LNG and propane will be built to store these liquids.

The LNG will be loaded onto LNG ships to be taken to market on the Alaskan communities and China. ZPEB/SINOPEC has committed to buy 4 BCF/D of LNG. The marine terminal which can be designed and built by a U.S. company will have a loading facility for propane bottles so that propane can be delivered to the Seward port and then shipped by railroad to Nenana where the propane can be shipped down the Yukon River by barge to the Alaskan communities along the river on a regular basis.

The Jones Act LNG ships can also transport LNG to the Alaskan coastal cities, such as Kodiak, Cordova, Seward, Bethel, Dillingham, Nome, Kotzebue, Juneau, Sitka, Ketchikan, St. Paul, and Dutch Harbor where local LNG receiving stations and degasification plants will be built to deliver the natural gas to local community home owners and electrical power plants. The non-Jones Act LNG ships will transport LNG overseas at a cheaper ship building cost.

Along the “Alaskans First” mainline cities of Fairbanks, North Pole, Eielson AFB, Delta Junction, Glennallen, and Valdez will be allowed to tap on the main line to receive natural gas for their use in heating and generating electricity. This “Alaskans First” pipeline will provide cheap gas to heat Alaskan homes and generate electricity for the next 30 to 50 years. With continual exploration of new gas fields, this plan can last to the next century and can be in use by 2020, only 12 years from now.

While the “Alaskans First” pipeline is being designed and the segment of the 24” spur line will start the permit application process. The reason is that while the “Alaskan First” segment has almost all the permits on hand, having been approved by the Federal Energy Regulatory Commission through the former Yukon Pacific Pipeline Co. , there has not been any application for permitting for the spur line segment of the pipeline, and it takes time to get these permits. Once the permits are received, then LSCC will apply for a federal guaranteed loan for the construction of the project which the federal government

has promised for the pipeline. LSCC/Sinopec, the State of Alaska, and private companies, will raise the difference to build the gas pipeline.

The engineering design and right-of-way acquisition will be done separately for the spur line and the main line with the assistance of a U.S. and Alaska firm, and the construction of each segment of pipeline will be open-bid process with payment and performance bonds required. The segments will be bid in several sub-segments so that the smallest pipeline builders can bid a portion of the project. This pipeline design consists of 24” and 48” buried pipe operating at approximately 2500 psi. Compressor stations would be placed at required intervals to keep the gas flow rate constant. In area susceptible to permafrost, the gas would be chilled to manage the pipe strength and keep the frozen soils from thawing; and in some area, the gas line will be elevated above the ground with freeze-tube structure support, known as vertical support members (VSM).

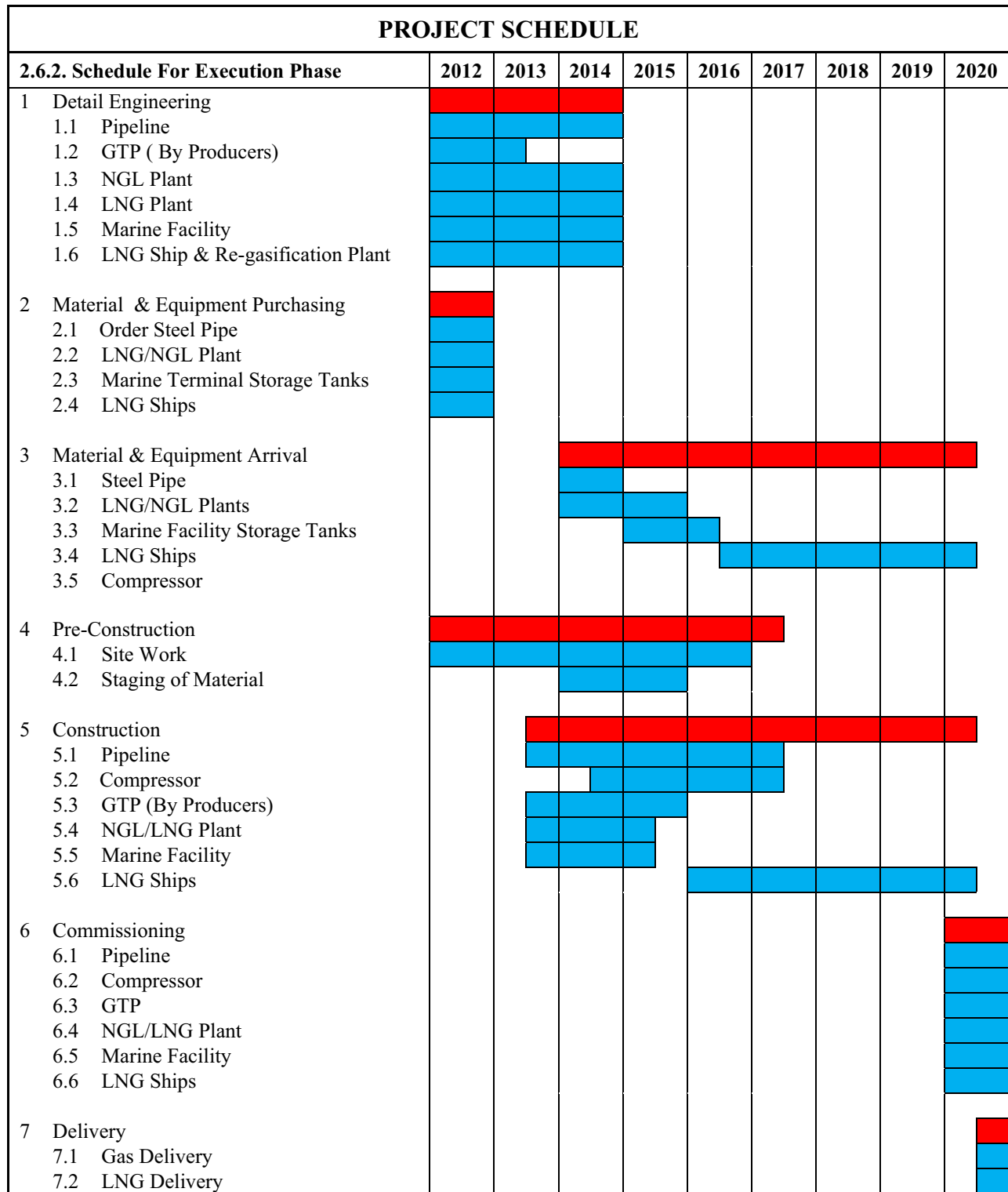
Estimated Project Schedule

The following figure represents our estimated project schedule and activities. It spans over ten years from the start of the project to the commissioning of gas delivery. It is based on the assumption that all the components of this project are successful, including licensing, engineering design, right-of-way acquisition, all state and federal permits, financing, shippers’ and buyers’ agreements, construction of pipeline, LNG, NGL plants, marine terminal, and LNG shipping fleets leased by buyers in a timely manner. If issues arise, or unanticipated events delay the project, the schedule would be extended and adjusted accordingly. A revised schedule will be established once more information is obtained. (See figures 1 & 2.)

Figure 1.

PROJECT SCHEDULE					
2.6.1. Schedule For Development Phase	2008	2009	2010	2011	2012
1 License Issues					
2 Open Season process					
3 Regulatory Application Preparation					
4 Regulatory Approval					
5 Front End Engineering Development Phase					
5.1 Permits					
5.2 EIS					
5.3 Pipeline Design					
5.4 GTP Design (by Producer)					
5.5 NGL Plant Design					
5.6 LGN Plant Design					
5.7 Marine Terminal Design					
5.8 LNG Ships Re-gasification Plants					

Figure 2.



Explanation of Activities

- Submit license application on Nov. 30, 2007.
- Obtain license, estimate in Sept. 2008 if LSCC is selected by the commissioners and approved by the AK legislators.
- Project Planning: During the project planning, LSCC and ZPEB SINOPEC will do the following:
 - Conduct technical study for selection of a preliminary project design basis;
 - Develop project cost estimates, including right-of-way, land acquisition, engineering design, permitting, and construction, post-construction operations and maintenance, cost of the facilities;
 - Update economic analysis for project viability;
 - Prepare work plan, staffing plan, and cost estimates for the project phase;
 - Select consultant and contractor for the next project phase;
 - Develop plan for permit application in the U.S. and State of Alaska;
 - Establish cost of project to outline the tariff principles;
 - Communicate with North Slope gas shippers for mutual benefit terms and agreement for the shippers' interest to put gas into the pipeline or sell the gas at well heads.
- Engineering

After completion of the planning, LSCC and ZEPB SINOPEC will start the Front End Engineering Design (FEED). LSCC would hire Alaska and U.S. engineering firms to

assist in the design and engineering of the project components which include the following projects:

- Alaska First Segment of Pipeline;
- Compressor Stations along the Pipeline;
- Tap-off points at four of the following cities: Fairbanks, North Pole, Delta Junction, Glennallen, or Valdez; as well as the Spurline;
- Marine terminal and LNG storage facility at Anderson Bay;
- Liquefied Natural Gas (LNG) Plant at Valdez;
- Natural Gas Liquid (NGL) Plant at Valdez;
- Spur line design from Glennallen to Beluga River Field;
- Technical support during the permitting application and agency reviews for U.S. Environmental Impact Statement (EIS) and State of Alaska, Department of Environmental Conservation and other federal and state regulatory permit applications.

After securing the major permits, detailed engineering would be completed to generate construction documents necessary for project construction.

- Field Data Collection

- This activity includes geotechnical engineering investigation, soil sampling, Native artifacts and burial grounds to support the design and the permitting process. It will take a twelve month period to get these field data. However, the Alaskan First segment of the pipeline has

been thoroughly investigated when the Alaska Oil Pipeline (TAPS) was built in 1970, and we can reuse these data.

- Open-Season Bidding Process
 - The open-season bidding process (maximum 36 months) is an established regulatory mechanism with the purpose of allocating pipeline capacity without undue discrimination to different gas shippers (North Slope gas producers). The LSCC team will conform to all applicable FERC, AERC, and NEB regulations. After filing the Open Season plan with FERC, notice will be served to all North Slope gas producers, LSCC will sit down with every one of them and negotiate favorable terms and conditions that they are comfortable with, including persuading the producers to build a gas treatment plant next door to their central gas processing facility (CGF). This open season will provide an opportunity for the producers to sell their gas and the State of Alaska to get royalty and tax for the State treasury. LSCC will also accept late bids from qualified shippers.
 - LSCC/Sinopec will also offer to buy the natural gas at well head as an option, since LSCC has an agreement with Sinopec to buy the LNG product and owns the operation of the “Alaskans First” Pipeline Service Co.
 - With these agreements signed, everybody will be able to progress toward project completion, and LSCC and the design team will have the information to adjust the pipeline design according to the volume of gas committed by the shippers. This updated design will be used to support the permit application to FERC, NEB, and AKERC.
 - LSCC will also explore the options of the shippers’ interest to put gas in the pipeline or sell it outright at the well heads.

- Permitting
 - For the “Alaskans First” segment of pipeline from the North Slope to Valdez, LSCC will ask FERC to allow us to reuse the same permits formerly submitted by Yukon Pacific Gas Pipeline Co. If not, LSCC will submit a new application together with the new application for permit for the Liquefied Natural Gas Plant (LNG), Natural Gas Liquid Plant (NGL), and the marine terminal and storage yard.
 - For the Alaska to Beluga River Field segment of the pipeline, LSCC will submit permit applications to the U.S. Government for Environmental Impact Statement (EIS). The goal is acceptable NEPA (National Environmental Policy Act) decisions and receipt of FERC (Federal Energy Regulatory Commission) and NEB (National Energy Board) approvals. The approvals are known as Certificates of Public Convenience and Necessity and must be acquired before anyone can build a pipeline.
 - Key activities are to secure the right-of-way, acquires access to the pipeline corridor including lease land and/or land acquisition.
- Procurement
 - Because of the extreme magnitude of this project in size and design concepts, the procurement activities of this project would be based on a worldwide competitive basis, based on technical ability and experience, schedule compliance and pricing, Alaska companies will be given equal opportunity to bid and supply equipment. The sources listed below are based on previous experience and technical competence. They are not predetermined. The procurement activities of the pipeline would include the following activities:

- Procurement of pipeline: 48” and 24” diameter X70 steel from a People’s Republic of China steel factory and/or Japanese steel factories. The size of pipe depends on shippers’ interest. To fill this big order, Sinopec can obtain this pipe through Bo On Steel of China and Nippon Steel of Japan. They are some of the largest steel manufacturers in the world. The pipe will comply with the appropriate U.S. regulations and specifications.
- Procurement of compressors and compressor stations and accessories to be constructed along the pipeline, including 14 stations from Prudhoe Bay to Valdez and 4 compressor stations on the spur line: these compressors are long lead items from compression manufacturers.
- Gas treatment plant for North Slope gas production unit: The North Slope producers can order the plant and ship modules to the North Slope and reassemble on the site.
- Liquefied Natural Gas Plant (LNG): This plant can be manufactured in China and shipped to Alaska in modular units and reassembled on site. It is also a long lead item. Sinopec has a manufacturing plant to build LNG plants.
- Natural Gas Liquid Plant (NGL). This plant can be manufactured in China and shipped to Alaska in modular units and reassembled on site. It is a long-lead item. Sinopec has a manufacturing plant to build NGL plants.
- Marine docking facility and LNG storage tank farm. These pressure vessel tanks can be manufactured in China and shipped to Alaska and reassembled on-site. Sinopec has a manufacturing plant to build this ASTM pressure vessel tank. The docking facility material can be supplied locally and by the Lower 48.

- Propane tanks and LNG storage units at local Alaskan communities: These ASMT certified pressure vessel tanks can be manufactured in China and in Alaska and shipped to Alaska communities and reassembled on site. Sinopec has a manufacturing plant to make these ASTM pressure vessel tanks, and Alaska tank manufacturers will have a chance to bid on the project.
- With employees of LSCC/Sinopec as the procurement officers, the materials of the steel pipeline and LNG, NGL, plants, and the ASTM pressure vessel tanks can be obtained without delay and under budget.
- Pre-Construction
 - Pre-construction activity includes preparatory work prior to pipeline work beginning. It will require the pipeline route to be cleared for construction, gravel pads for the compressor stations, staging areas, worker camp installation, small electrical power plant, tools and equipment repair shops.
 - Once the steel pipe arrives, it will be coated and delivered to the staging areas.
 - This period will involve a bidding phase: a notice to invitation to bid for different segments of the pipeline and compressor stations, so that smaller construction companies can participate in the bidding process. After award, the successful bidders will be required to post payment and performance bonds as any large-scale construction project.
 - Once the financing is in place, the LNG buyers will place an order with the shipping industry to build 20 large LNG ships (150,000m³ to 185,000m³) and 4 smaller LNG ships (Jones Act) with a capacity of 75,000m³. These orders will go to ship yards in the U.S. China, Korea, and Poland.

- Construction
 - During the construction phase, LSCC will hire a construction management firm to oversee the construction contractors and their activities to make sure they meet the schedule and budget. This administration will be made up of experienced pipeline builders and engineers such as Fluor or CH2MHill or other international construction management firms.
 - The activity in the construction phase includes excavation and backfill for the pipeline and above-ground pipeline installation, fabrication, installation of project facilities, such as GTP, LNG plant, NGL plant and compressor stations, the marine dock facility, and LNG storage tank farm facility.
 - The construction phase also deals with the labor force, skilled workers, truck drivers and heavy equipment operators, winter construction, assembly of equipment modules, stringing of steel pipe, and complete testing and commissioning of the gas delivery.
- Delivery
 - After the project begins LNG production, the LNG ships will take the LNG to China on a Sinopec previously signed contract to buy LNG.

Alaska Training and Hiring Program

The Alaska Gas pipeline project is one of the world's largest construction projects, 3 times bigger than the Alaskan Oil Pipeline Project and 190 miles longer, counting the spur line. It requires a large quantity of steel pipe, large compressors and equipment as well as a large pool of skilled labor.

The material and equipment can be procured through our procurement office. With the world-wide network to which we will have access, LSCC /Sinopec will be able to fill the order. However, in the skilled and non-skilled labor force, LSCC will work with the State for the training and supply of this large labor force.

During the pre-construction phase, a large non-skilled labor force is needed to clean the route, installing the gravel pad foundations for the compressor stations and building some roads to a staging area. There is also be some land clearing in Anderson Bay and leveling of the hillsides to make room for LNG storage tanks and an LNG plant and NGL plant and other marine docking facilities which require labor that Alaska is ready to supply.

However, in the construction phase, the demand for the skilled and non-skilled labor is in the tens of thousands to fill the large number of construction jobs that will be created under this project and sub-projects. The availability of skilled workers in Alaska and the U.S. is a concern to the contractors and sub-contractors. LSCC will work with the State of Alaska Department of Labor and workforce development to help in the training and development of such a large pool of workers.

LSCC will comply with all valid federal and state laws regarding local hire and Alaskan hire, as well as contracting to Alaska business with oil field service and construction experience and will reserve the right to hire out-of-state workers and business if Alaska cannot meet the demand.

The project logistics for both summer and winter construction requires a work force to work all year round for material handling, worker support camps, shipping equipment to several job sites through various ports on the North Slope, and in the Southcentral port of Seward, Valdez, and Anchorage, then transport it to railroads and trucking to the job sites.

To the extent of 4 years of construction by qualified Alaskan labor, skilled and non-skilled, is a 20,000 person workforce that may require additional laborers to enter the pool of Alaskan work force.

The State would have a number of training facilities to train skilled workers. The U.S. Federal legislation ANGPA (Alaska Natural Gas Pipeline Act) mandates the U.S. Department of Labor to provide a grant to the State of Alaska to set up training facilities to train skilled laborers.

LSCC would like the State to develop these and other training programs that could increase the number of skilled workers to fill these construction jobs.

LSCC will contribute money to the State training program for the following job descriptions:

- **Skilled laborers:** such as welders, pipe fitters, and electricians;
- Non-skilled laborers
- **Equipment operators:** to lay pipe, run forklifts, dozers, backhoes, and other heavy equipment.
- **Truckers:** to deliver materials, haul away excavation materials, soil, rocks, and etc.
- **Technicians:** for in X-ray testing; sonic testing, and computer technology.
- **Apprentices:** Students in all Alaska school districts to be informed of up-coming job opportunities by apprenticeship programs of different unions that will supply labor to the work force.

Contractors and sub-contractors will be given incentives by LSCC to:

- **Hire union work force:** journeymen, and apprentices and sign employment agreements with the unions.
- **Provide on-the-job training programs:** for new hire employees.
- **Provide job openings, job descriptions, and required skill levels for expected positions in advance to the State Dept. of Labor:** so they can prepare their job training programs according to the future need.

- **Sign a non-strike agreement with all the unions:** so there will be no delay of the project due to strike.

Final Conclusion

1. In our proposal, we have provided a chart of LNG price and the corresponding revenue to the U.S., State of Alaska, and North Slope Producers. Currently, LNG is selling in Macao, People's Republic of China for \$10.00 per 100,000 BTU: the equivalent of 1,000 C.F. of natural gas. The price of gas goes up and down in relation to the oil price. An economic comparison is provided below.

Sales Price	Revenue	US Share	St AK Share	N.S. Producer Share	LSCC Share
\$7.00	10.91 B	1.52 B	1.57B	2.54 B	0.59 B
\$8.00	12.37 B	1.97 B	1.88 B	3.25 B	0.59 B
\$9.00	13.83 B	2.41 B	2.18 B	3.96 B	0.59 B
\$10.00	15.29 B	2.86 B	2.48 B	4.67 B	0.59 B
\$11.00	16.75 B	3.31 B	2.78 B	5.38 B	0.59 B
\$12.00	18.21 B	3.76 B	3.08 B	6.09 B	0.59 B

2. This project is good for Alaskans and will enable them to enjoy a 30 to 50 year availability of cheap gas and electricity. The plan will cover the entire state and also create 20,000 construction jobs and 5,000 permanent jobs after the project is complete.

3. The oil producers would sell their natural gas at well-head prices and without spending money to build the gas pipeline. Once the line is built, they would just receive their 87.5% of gas money from the ground plus a tariff charge on the GTP work. The producers' income could be billions.
4. If the project can produce 4 BCF/D of LNG to the China's market, the State of Alaska will benefit most of all. The State of Alaska will receive 12.5% of the royalty gas money, 2% of property tax on the pipeline and facilities, 9.4% State corporation tax, with other taxes and fees will garner billions per year in the State treasury and into the Alaska Permanent Fund account. If the LNG selling price goes up the state income also goes up.
5. The U.S. Federal Government will get 35% of the producers' net profit, as well as profits from pipeline and LNG plant operators. This could amount to billions of dollars.
6. LSCC, will receive the tariff to pay back the investment in 30 years, plus profit for operation and maintenance costs. LSCC will explore ideas for communality and maintenance efficiency with Alyeska Pipeline Service Company to co-manage the pipeline and share forces in maintenance, security, and marine facilities operation, to cut costs.
7. LSCC/Sinopec would encourage the Alaska Natural Gas Development Authority to participate in the engineering design and construction of the spurline. LSCC/Sinopec would welcome ANGDA to participate to design, finance, build and operate the spur line under LSCC/Sinopec terms and agreement. The gas that goes through this pipeline will be charged only the tariff for GTP in North Slope and the gas mainline only. The tariff for the NGL plant, LNG plant, the Marine Terminal will not apply to the gas that goes through this pipeline.

LSCC/Sinopec believes our pipeline, vast LNG experience, multi-disciplinary approach, and enthusiasm are appropriate to merit your selection. You will find us as a professional organization,

willing to foster close communication with our client. We look forward to the opportunity to design and construct the Alaska gas pipeline, finance the project, and commit to buy the 4 BCF/D of natural gas and provide Alaska with personal service in the future.

Who is the winner of the project? Alaskans are the winners. That is why we call this pipeline project from the North Slope to Valdez segment an “Alaskans First” Pipeline.

Respectfully submitted by,

Dominic S.F. Lee, P.E.

President and CEO

Little Susitna Construction Company

“ALASKANS FIRST” GAS PIPELINE

2. PLAN FOR PROPOSED PROJECT

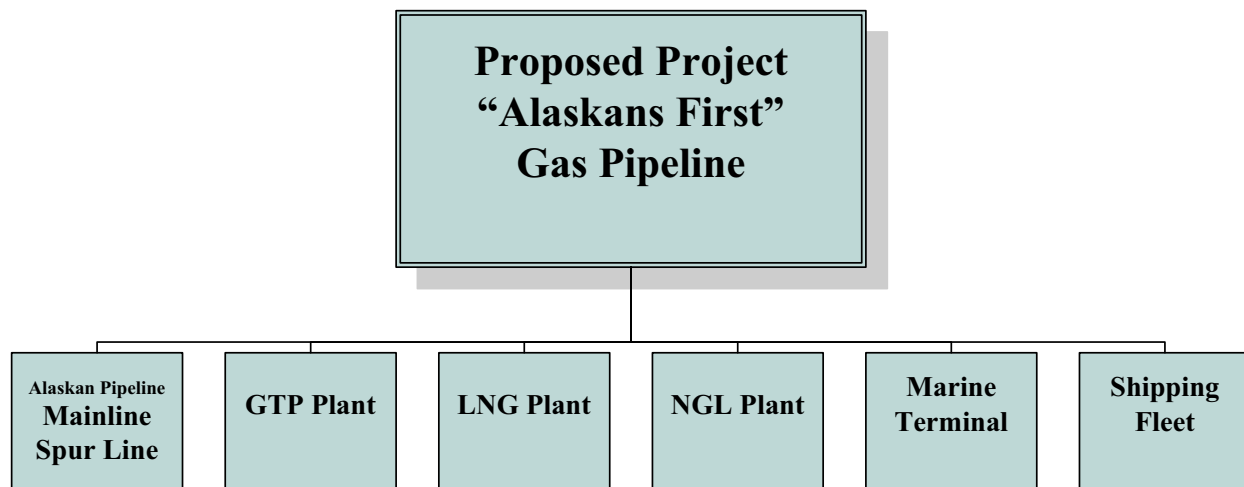
2.1 PROJECT DESCRIPTION

Project Overview

Little Susitna Construction Company, Inc. (LSCC) of Anchorage, Alaska and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation (Sinopec), are submitting a proposal for the Alaska State AGIA project. Sinopec is one of the two largest petro companies in China, currently ranked no. 17 of Fortune Global 500 companies. A teaming agreement has been signed between Little Susitna Construction Co. (Little Su) and ZPEB Sinopec in Henan, China, on Oct. 24, 2007. This agreement allows LSCC to apply for the pipeline license with 100% financial, engineering, and other resource backup from Sinopec. A letter of intent was signed on November 13, 2007 by ZPEB Sinopec to purchase 4 BCF/D of Natural Gas from the pipeline project after it is converted to LNG.

If the State of Alaska selects Little Susitna Construction Co. to receive the AGIA license, a new contract will be signed and a new legal entity, “Alaskans First” Pipeline Service Co. (AFPS), will be created to develop a preliminary plan to build a natural gas pipeline and related facilities. This new agreement will make provision for financial back-up to provide funding for engineering and design of the pipeline, liquid natural gas plant (LNG), natural gas liquids plant (NGL), marine terminal, natural gas and LNG storage facilities. The buyers of LNG will lease a

fleet of 24 ships to transport LNG to the Alaskan coastal cities and the world market. Sinopec would ask the People's Republic of China to permit them to fund the portion of the project which is not funded under the U.S. Government guaranteed bond and to buy all the LNG and the natural gas liquids from the project which are not used in Alaska.



The design capacity will enable Alaska to transport approximately 4 BCF/D from the North Slope to markets in Valdez, Alaska and the Far East, according to the shippers' interest. This pipeline and related facilities will be designed to add up to 1 BCF/D capacity to the customers, depending on the demand of the market and economic feasibility and shippers' interest.

The components of the new Alaska gas pipeline are as follows:

1. At the North Slope, Prudhoe Bay, North Slope producers will build a natural gas treatment plant.

2. From the existing gas field, shippers will construct a gas transmission pipeline from the new GTP plant to the beginning of the pipeline compressor station no. 1 for transmission of gas to Valdez.
3. From the North Slope to Valdez along the Trans-Alaska Pipeline System, LSCC/Sinopec will build a 48” diameter main Alaska gas line (800 miles) according to the shippers’ interest.
4. LSCC/Sinopec will build one 24” spur line from Glennallen to Beluga River Field to feed the Enstar Gas Company for sale to Southcentral Alaska; the same line also to feed CEA to generate electricity for the same region. ¹
5. The main line will follow the existing TAPS to the City of Valdez, terminating at Anderson Bay, just 2 miles west of Alyeska Oil Terminal.
6. At Anderson Bay, LSCC/Sinopec will build a liquid natural gas (LNG) plant and a natural gas liquids (NGL) plant to liquefy the natural gas and separate and process the liquid petroleum products.
7. LSCC/Sinopec will build a marine terminal with a 20 million gallon LNG storage tank farm for LNG tanks and NGL tanks for storage and loading onto ships.
8. A fleet of 24 ships will be leased by the LNG and propane buyers leased to transport the LNG and other liquids to the market. Buyers include Sinopec and Alaskan communities.

The GTP would be located on the North Slope, next to the oil gathering and processing plant. The producers should build the GTP in conjunction with the existing oil and gas

¹ Alternatively, the Alaska Natural Gas Development Authority could build this spur line.

processing plants to provide clean natural gas to the specifications required to enter the pipeline. This GTP plant would be designed to remove carbon dioxide (CO₂), hydrogen sulfide (H₂S), oil, drilling mud, water, and other impurities from the raw natural gas to meet the transport natural gas specifications. The gas will be compressed and chilled at the GTP prior to feeding into the first compressor station and injecting into the gas pipeline. The 48” main line from the North Slope to Valdez is about 800 miles long. LSCC hopes it can share the maintenance and security with Alyeska Pipeline Service Company and conserve costs after the gas line is in operation.

The spur line of 24” diameter pipeline from Glennallen to Beluga River Field is about 190 miles long. It has been explored by Alaska Natural Gas Development Authority (ANGDA). If built, it will provide inexpensive electricity and home heating for Southcentral Alaska.

This 24” spur line can be built at the same time as the mainline construction from the North Slope to Valdez. The spur line will substantially meet South Central’s energy needs for 50 years. Other instate use can be extended to Fairbanks, the Yukon River, and even tidewater communities on the Coast, such as Kodiak, Dillingham, Bethel, Nome, Kotzebue, Valdez, Juneau, Sitka, Ketchikan, St. Paul, Dutch Harbor, and other small villages along the Kuskokwim River, Inside Passage, and St. Lawrence Island by shipping LNG and propane supply to heat the homes and generate electricity in the whole of Alaska. Instead of paying \$600 to \$800 on heating and electric bills every month, Alaskans can reduce their costs to 1980’s level to \$200 per month for the next 30 to 50 years with this “Alaskans First” gas pipeline. The gas to five tap off points (includes spurline as one of the tap off points) will pay the tariff in the gas line and not the high tariff of the LNG/NGL plant cost. With the state issuing the community block grant, to subsidize the gas prices from the billions it collects every year. Alaskan families should be benefited by saving several thousand dollars in home heating and electrical bills.

The “Alaskans First” pipeline can be started as soon as all the permits are secured and the financing is in place by LSCC and Sinopec. All the components of this “Alaskans First” segment could complete engineering design, plans, and start up construction within four years’ time. Assuming permits and financing could be put in place in a timely fashion, South Central Alaska would receive the gas by 2020 before the Cook Inlet gas field runs out and leaves the Greater Anchorage area without gas to heat homes and generate electricity.

The fast-track approval would also allow for construction of the main gas line from the North Slope to Valdez parallel to the existing Alyeska Oil Pipeline and terminal at 2 miles west of the oil terminal at Anderson Bay where LSCC/Sinopec will design and build an LNG plant and an NGL plant with 4 BCF/D capacity to extract hydrocarbons from the natural gas such as propane, butane and other petroleum products. A large storage yard with 20 million gallon storage capacity for LNG and propane will be built to store these liquids.

The LNG will be loaded onto 145,000 m³ to 180,000 m³ size LNG ships to be taken to the China market, of which LSCC has the buyer market secured. The marine terminal which can be designed and built by a U.S. company will have a loading facility for propane bottles so that propane can be delivered to the Seward port and then shipped by railroad to Nenana where the propane can be shipped down the Yukon River by barge to the Alaskan communities along the river on a regular basis.

The Jones Act LNG ships can also transport LNG and/or propane to the Alaskan coastal cities, such as Kodiak, Dillingham, Nome, Kotzebue, Juneau, Sitka, Ketchikan, St. Paul, and Dutch Harbor where local LNG receiving stations and degasification plants will be built to deliver the natural gas to local community home owners and electrical power plants. The non-Jones Act LNG ships will transport LNG overseas at a cheaper ship building cost.

Along the “Alaskans First” mainline route, five tapping points the cities of Fairbanks, North Pole, Eielson AFB, Delta Junction, Glennallen, the spur line and other communities will be allowed to tap on the main line to receive natural gas for their use in heating and generating electricity. This “Alaskans First” pipeline will provide inexpensive gas to heat Alaskan homes and generate electricity for the next 30 to 50 years. The gas would be restricted to use for heating and electricity. With continual exploration of new gas fields, this plan can last to the next century and can be in use by 2020, only 12 years from now.

While the “Alaskans First” pipeline is being designed, the segment of the 24” spur line can be designed concurrently, and both can be finished at approximately the same time. The construction could be accelerated by updating the permits which have previously been obtained by the former Yukon Pacific Pipeline Corporation through a new application with the Federal Energy Regulatory Commission. There has not been any application for permitting of the 24” spur line segment of the pipeline, and it takes time to get these permits. Once the permits are received, then LSCC will apply for a Federal guaranteed loan for the construction of the project which the Federal Government has promised for the pipeline. LSCC/Sinopec will raise the difference to build the gas pipeline.

The engineering design and right-of-way acquisition will be done separately for the spur line and the main line, and the construction of each segment of pipeline will be open-bid process with payment and performance bonds required. The segments will be bid in several sub-segments so that the smallest pipeline builders can bid a portion of the project. This pipeline design consists of 24” and 48” buried pipe operating at approximately 2500 psi. Compressor stations would be placed at required intervals to keep the gas flow at a constant rate. The design will provide extra compression stations for future expansion needs. In areas susceptible to

permafrost, the gas would be chilled to manage the pipe strength and keep the frozen soils from thawing; and in some areas, the gas line will be elevated above the ground with freeze-tube structure support, known as vertical support member (VSM).

Estimated Project Schedule

The following figure represents our estimated project schedule and activities. It spans over ten years from the start of the project to the commissioning of gas delivery. It is based on the assumption that all the components of this project are successful, including licensing, engineering design, right-of-way acquisition, all state and federal permits, financing, shippers' and buyers' agreements, construction of pipeline, LNG, NGL plants, marine terminal, and LNG shipping fleets purchased or leased in a timely manner. If issues arise, or unanticipated events delay the project, the schedule would be extended and adjusted accordingly. A revised schedule will be established once more information is obtained. (See Schedules in Sect. 2.6.1. and 2.6.2)

Explanation of Activities

- Submit license application on Nov. 30, 2007.
- Obtain license, estimate in Sept. 2008 if LSCC is selected by the commissioners and approved by the Alaska legislators.
- Project Planning: During the project planning, LSCC and ZPEB SINOPEC will do the following:
 - Solicit and select an experienced national construction project management firm to run the construction project;
 - Conduct technical study for selection of a preliminary project design basis;

- Develop project cost estimates, including surveying, right-of-way, land acquisition, engineering design, permitting, and construction, post-construction operations and maintenance, cost of the facilities;
- Update economic analysis for project viability;
- Prepare work plan, staffing plan, and cost estimates for the project phase;
- Select consultant and contractor for the next project phase;
- Develop plan for permit application in the U.S. and State of Alaska;
- Establish cost of project to outline the tariff principles;
- Communicate with North Slope gas shippers for mutual benefit terms and agreement for the shippers' interest to put gas into the pipeline or sell the gas at well heads.

Engineering

After completion of the planning, LSCC and ZEPB SINOPEC will start the Front End Engineering Design (FEED). LSCC would hire Alaska and U.S. engineering firms to assist in the design and engineering of the project components which include the following projects:

- Gas Treatment Plant (GTP) to be designed and built by shippers;
- Alaska main pipeline;
- Compressor Stations along the Pipeline;
- Tap-off points at Fairbanks, North Pole, Delta Junction, Glennallen, Spur Line, and Valdez;
- Marine terminal and LNG storage facility at Anderson Bay;
- Liquefied Natural Gas (LNG) Plant at Valdez;
- Natural Gas Liquid (NGL) Plant at Valdez;

- Spur line design from Glennallen to Beluga River Field;
- Technical support during the permitting application and agency reviews for U.S. Environmental Input Statement (EIS) and State of Alaska, Department of Environmental Conservation, and other federal aid and state regulatory permit applications.

After securing the major permits, detailed engineering would be completed to generate construction documents necessary for project construction.

Field Data Collection

This activity includes geotechnical engineering investigation, soil sampling, Native artifacts and burial grounds to support the design and the permitting process. It will take a twelve month period to get these field data. However, the Alaskan First segment of the pipeline has been thoroughly investigated when the Alaska Oil Pipeline (TAPS) was built in 1970, and we can reuse these data.

Open-Season Bidding Process

- The open-season bidding process (maximum 36 months) is an established regulatory mechanism with the purpose of allocating pipeline capacity without undue discrimination to different gas shippers (North Slope gas producers, the state and third party wellhead producers). The LSCC team will conform to all applicable FERC, and RCA regulations. An open season plan will be filed with FERC and the notice is served to all North Slope gas producers and end users. LSCC will sit down with every one of them and negotiate favorable terms and conditions w/which they are comfortable. This open season is to smooth out the position of the oil companies

and the State of Alaska so the oil companies can sell their gas, and the State of Alaska will get their royalty and tax for the State treasury.

- LSCC/Sinopec will, as a first preference, offer to buy the natural gas at well head (GTP exit) as an option, since LSCC has an agreement with Sinopec to buy the LNG export product.
- With these kinds of agreements signed, everybody will be able to progress toward project completion. It also gives LSCC and the design team information to adjust the pipeline design according to the volume of gas committed by the shippers and end users. This updated design basis would be used to support the permit application to FERC, and RCA.

Permitting

- For the “Alaskans First” segment of pipeline from the North Slope to Valdez, LSCC will ask FERC to allow us to reuse the same permits formerly submitted by Yukon Pacific Gas Pipeline Co. If it is not permitted, LSCC will submit a new one together with the new application for permit for the Liquefied Natural Gas Plant (LNG), Natural Gas Liquid Plant (NGL), and the marine terminal and storage yard.
- For the Alaska to Beluga River field segment of the pipeline, LSCC will submit permit applications to the U.S. Government for Environmental Impact Statement (EIS) and state agencies for state permits. The goal is acceptable NEPA (National Environmental Policy Act) decisions and receipt of FERC (Federal Energy Regulatory Commission) and RCA approvals. The FERC and RCA approvals are known as Certificates of Public Convenience and Necessity and must be acquired

before a pipeline can be built. In the alternative, a separate group such as ANGDA could build the spur line from Glennallen to the Cook Inlet.

- Key activities are to secure the right-of-way, access to land where the pipeline goes through, some of this activity including lease land and/or land acquisition. This process includes right of way negotiations with TAPS, AHTNA, and land owners along the TAPS corridor.

Procurement

The procurement activities of this project include the following activities:

- Procurement of pipeline: X70, 48", 24" diameter from China and Japan. The size of pipe depends on shippers' interest. To fill this big order, Sinopec can obtain this pipe through Bo On Steel of China and Nippon Steel of Japan, two of the largest steel manufacturers in the world. The pipe will comply with the appropriate U.S. regulations and specifications.
- Procurement of compressors and compressor stations and accessories to be constructed along the pipeline, including 14 stations at Alaskans First segment and 4 on the spur line: these compressors are long lead items.
- Liquefied Natural Gas Plant (LNG): This plant can be manufactured in China and shipped to Alaska in modular units and reassembled on site. It is also a long lead item. Sinopec has a manufacturing plant to build LNG plants.
- Natural Gas Liquid Plant (NGL). This plant can be manufactured in China and shipped to Alaska in modular units and reassembled on site. It is a long-lead item. Sinopec has a manufacturing plant to build NGL plants.

- Marine terminal facility and LNG storage tank farm. These pressure vessel tanks can be manufactured in China shipped to Alaska and reassembled on-site. Sinopec has a manufacturing plant to build this ASTM pressure vessel tank, including propane tanks and LNG tanks.
- Propane tanks and LNG storage units used at local Alaskan communities: These ASMT certified pressure vessel tanks can be manufactured in China and shipped to Alaska and reassembled on site. Sinopec has a manufacturing plant to make these ASTM pressure vessel tanks, and Alaskan tank manufacturers will have an opportunity to bid on the project.
- With the LSCC/Sinopec as the procurement officers, the materials of the steel pipeline and LNG and NGL plants, and the ASTM pressure vessel tanks can be obtained without delay and under budget.
- Pre-Construction
 - Pre-construction activity includes preparatory work prior to pipeline work beginning. It will require the pipeline route to be cleared for construction, gravel pads for the compressor stations, staging areas, worker camp installation, small electrical power plant, tools and equipment repair shops. Purchasing and expediting of steel pipes, compressors, LNG and NGL plant modules, and other materials will be done. Camp mobilization will be started.
 - Once the steel pipe arrives, it will be coated and delivered to the staging areas.
 - This period will involve a bidding phase: a notice to invitation to bid for different segments of the pipeline and compressor stations, so that smaller construction companies can participate in the bidding process. After award,

the successful bidders will be required to post payment and performance bonds as any large-scale construction project.

- Construction
 - During the construction phase, LSCC will have a construction management firm in place to oversee the construction contractors and their activities to make sure they meet the schedule and budget. This administration will be made up of experienced pipeline builders and engineers such as Fluor, CH2MHill or other international construction management firms.
 - The activity in the construction phase includes excavation and backfill for the pipeline and above-ground pipeline installation, fabrication, installation of project facilities, such as LNG plant, NGL plant and compressor stations, the marine terminal facility, and LNG storage tank farm facility.
 - The construction phase also deals with the labor force, skilled workers, winter construction, assembly of equipment modules, stringing of steel pipe, and complete testing and commissioning of the gas delivery.

Alaska Training and Hiring Program

The Alaska Gas pipeline project is one of the world's largest construction projects, with construction cost three times bigger than the Trans-Alaska Pipeline Project. It requires a large quantity of steel pipe, large compressors and equipment as well as a large pool of skilled labor.

The material and equipment can be procured through our procurement office. With the world-wide network to which we will have access, LSCC will be able to fill the order. However, in the skilled and non-skilled labor force, LSCC will work with the State for the training and supply of this large labor force.

During the pre-construction phase, a large non-skilled labor force is needed to clean the route, installing the gravel pad foundations for the compressor stations and building some roads to a staging area. There is also be some land clearing in Anderson Bay and leveling of the hillsides to make room for LNG storage tanks and an LNG plant and NGL plant and other marine terminal facilities which require labor that Alaska is ready to supply.

However, in the construction phase, the demand for the skilled and non-skilled labor is in the tens of thousands to fill the large number of construction jobs that will be created under this project and sub-projects. The availability of skilled workers in Alaska and the U.S. is a concern to the contractors and sub-contractors. LSCC will work with the State of Alaska Department of Labor and workforce development to help in the training and development of such a large pool of workers.

LSCC will comply with all valid federal and state laws regarding local hire and Alaskan hire, as well as contracting to Alaska business with oil field service and construction experience. LSCC will reserve the right to hire out-of state workers and businesses if Alaska cannot meet the demand.

The project logistics for both summer and winter construction requires a work force to work all year round for material handling, worker support camps, shipping equipment to several job sites through various ports on the North Slope, and in the Southcentral port of Seward, Valdez, and Anchorage, then transport it to railroads and trucking to the job sites.

To the extent of 4 years of construction by qualified Alaskan labor, skilled and non-skilled, is a 20,000 person workforce that may require additional laborers to enter the pool of Alaskan work force.

The State would have a number of training facilities to train skilled workers. The U.S. Federal legislation ANGPA (Alaska Natural Gas Pipeline Act) mandates the U.S. Department of Labor to provide a grant to the State of Alaska to set up training facilities to train skilled laborers.

LSCC would like the State to develop these and other training programs that could increase the number of skilled workers to fill these construction jobs.

LSCC will contribute money to the State training program for the following job descriptions:

- **Skilled laborers:** such as welders, pipe fitters, and electricians;
- Non-skilled laborers
- **Equipment operators:** to lay pipe, run forklifts, dozers, backhoes, and other heavy equipment.
- **Truckers:** to deliver materials, haul away excavation materials, soil, rocks, and etc.
- **Technicians:** for in X-ray testing; sonic testing, and computer technology.
- **Apprentices:** Students in all Alaska school districts to be informed of up-coming job opportunities by apprenticeship programs of different unions that will supply labor to the work force.

Contractors and sub-contractors will be given incentives by LSCC to:

- **Hire union work force:** journeymen, and apprentices and sign employment agreements with the unions.
- **Provide on-the-job training programs:** for new hire employees.

- **Provide job openings, job descriptions, and required skill levels for expected positions in advance to the State Dept. of Labor:** so they can prepare their job training programs according to the future need.
- **Sign a non-strike agreement with all the unions:** so there will be no delay of the project due to strike.

Conclusion

This project is good for Alaskans and will enable them to enjoy a 30 to 50 year availability of inexpensive gas and electricity. The plan will cover the entire state and also create 20,000 construction jobs and 5,000 permanent jobs after the project is complete.

The oil producers would sell their natural gas at well-head prices and without spending money to build the gas pipeline. Once the line is built, they would just receive their 87.5% of gas money from the ground.

The State of Alaska is the most benefitted of them all. It will receive 12.5% of the royalty gas money of which 25% goes to the Permanent Fund, 2% of property tax on the pipeline and facilities, export tax, State corporation tax of 9.4% and other taxes and fees will gain \$1.5 billion to \$2.4 billion per year into the State treasury. In addition, the state will receive a production tax paid by the producers on the gas that is produced.

For LSCC, it will receive the tariff that will pay back the investment in 30 years, plus profit and overhead of the operation and maintenance activities. It should be cheaper if LSCC can team up with Alyeska Pipeline Company to co-manage the pipeline and share forces in maintenance, security, marine facilities operation, and etc., to cut costs.

Who is the winner of the project? Alaskans are the winners. That is why we call this pipeline project from the North Slope to Valdez segment an “Alaskans First” Pipeline.

Project Description

<u>Subproject</u>	<u>AK Pipeline</u>	<u>Spur Line</u>	<u>Marine Terminal and LNG Fleet</u>
	Pipeline Compressor Stations SCADA Storage Infrastructure Accommodations	Pipeline Compressor Stations SCADA Storage Infrastructure Accommodations	Terminal Loading Facility Storage Facility 24 LNG Ships
	<u>GTP Plant</u> Designed & built by North Slope shippers Pressure Reduction Filtering Sludge Water Removal Infrastructure Accommodations	<u>LNG Plant</u> Liquefaction Utilities Storage Loading Facilities Tankers Infrastructure Accommodations Re-gasification	<u>NGL Plant</u> Metering Slug Catcher Separation Fractionation Storage Transportation Utilities Infrastructure Accommodations

2.1.1. AK Pipeline

Pipeline Mainline

- The main Alaska pipeline shall consist of one (1) 48” diameter pipeline, 1” thick, and 800 miles from the North Slope to Valdez along the TAPS corridor.
- It will be constructed of X70 steel pipe with yield strength of approximately 65,000 psi.
- The 800 mile 48” steel pipeline can deliver 4 BCF/D which requires an estimated ten compressor stations. In our design, we will provide a total of 14 compressor stations that can give another 1 BCF/D capacity to a total of 5 BCF/D if expansion is required so that pipe size is not changed.
- Receipt point will be at Dead Horse near Pump Station #1, and clean gas will be delivered after being treated by the shippers’ gas treatment plant.
- Delivery points will be provided at Fairbanks, Eielson-North Pole, Delta Junction and spur line at Glennallen for South Central, Glennallen and Valdez.
- Markets served by natural gas: Fairbanks area, South Central Alaska area, North Pole, Delta Junction, Glennallen, Valdez.
- Markets served by propane: Communities along the Yukon River reached by barge; Kuskokwim River, and other remote areas reached by barge.
- Markets served by LNG in Alaska: Alaska Coastal cities such as Kotzebue, Nome, Dillingham, Bethel, King Salmon, Dutch Harbor-Unalaska, Kodiak, Cordova, Juneau, Skagway, Sitka, Petersburg, Ketchikan and other small cities in Southeast Alaska. Each

city will have an LNG receiving station, storage tank, and re-gasification plant² from which natural gas can be piped.

- Overseas Market for LNG: 20 LNG ships to ship LNG to China and 4 Jones Act LNG ships to ship LNG to Alaskan communities.³

Spur Pipeline (From Glennallen to Beluga River field)

- The spurline shall consist of one (1) 24” diameter pipeline ¾” thick, 190 miles long with 4 compressor stations.
- It will be constructed of X70 steel pipe with yield strength of approximately 65,000 psi.
- The 190 mile 24” steel pipe can deliver up to 113 CF/D.
- The pipeline will parallel the Glenn highway from Glennallen to Palmer, and then turn west to Beluga River field.
- The gas delivered to Beluga River field will mainly be used for the Enstar gas system to heat the homes and businesses in the South Central area. The gas will also be supplied to C.E.A., the Beluga Power Plant that supplies electricity to Anchorage and other Southcentral cities.
- The gas from the spurline is not for industrial use.

The estimated cost of constructing the two pipelines and the compressor station is \$17.19 billion dollars.

² The buyer of the LNG is responsible for providing the re-gasification facilities.

³ Procurement of ships will be the responsibility of the LNG buyers.

PIPELINE COST

Rate (\$1.327 MCF)

Pipeline Length: North Slope to Valdez 800 Miles
Glennallen to Beluga 190 Miles

Pipe Size 48" Diameter, X70 steel,
24" Diameter X70 steel; 65,000 yield strength

Thickness: 1" for 48" pipe; ¾" for 24" pipe

Pipe Capacity: 4 BCF/Day or 1.46 TCF/year and 1 BCF/D operating 2,500 psi

Pipe will be buried in the ground, chilled gas in permafrost soil or elevated in bad soil with Sono freeze tube.

Cost of two Pipe Installations and compressor stations \$17.77 billion

1. Cost of pipeline, compression stations at 5% interest for 30 years	
\$17.77 billion = \$13.67 million	
2. Cost of pipe Capital	\$0.294/MCF
3. Property Tax at 2% = \$355 million	\$0.243/MCF
4. Operation, Security	\$0.200/MCF
5. Equipment Repair and Replacement	\$0.400/MCF
6. Fuel Cost	<u>\$0.190/ MCF</u>
Total Rate/MCF	<u>\$1.327/MCF</u>

Compressor Stations

Fourteen compressor stations will be located along the 800 mile pipeline. Each station will have its own building; maintenance shop and repair shop; electrical generation and heating plant; and worker's dormitory and dining facility. Each compressor station will have a total compressor capability of 75,000 hp and with a 100% backup of 75,000 hp.

The compressors will be fueled by natural gas from the pipeline.

SCADA

A SCADA system will be designed with controls in Fairbanks and Anchorage to control the flow of gas with monitor and control points along the pipelines and the 14 compressor stations.

Storage

There will be a 20 million gallon LNG storage tank capacity built at the Valdez terminal and a temporary natural gas storage tank at the receiving station at the end of the pipeline. The size of the temporary storage tank farm will be determined by the shippers' interest.

Infrastructure

Most of the pipeline will be buried. Pipe supports will be constructed by vertical structural members (VSM), similar to TAPS in the areas affected by permafrost.

The construction of the pipelines will call for the building of several bridges for pipeline crossing at the Yukon River and other small streams and rivers.

Accommodations

Each of the fourteen compressor stations will work 24 hours each day and will have also have accommodations for lodging and dining facilities for the workers. Each station will have a repair shop, a natural gas conversion plant to use as an energy source for the turbines that run the compressors and to provide electricity for the station. The natural gas conversion plant will reduce the pressure to allow for use in the compressor.

The spur line will be the same as the mainline, except that we will use 24" diameter X70 steel pipe with yield strength of 65,000 psi. This will have four compressor stations and have the same infrastructure and accommodations for the workers as the main line. This line will be tapped at Glennallen and go to the City of Palmer and turn west to Beluga River Field to feed the Enstar gas network and Chugach Electrical Association power plant.

2.1.2. North Slope Gas Treatment Plant

It is the responsibility of the producer to prepare the gas to meet the specifications of the gas pipeline. When a gas sales pipeline is constructed, the gas will need further treating before transportation into the pipeline. The gas outlet from the Central Gas Processing Facility (CGF) on the North Slope would probably be the feed to the Gas Treatment Plant (GTP) where CO₂, water and other contaminants would be removed. The technology for CO₂ removal is well proven and dependable. The operating pressure would be coordinated with the CGF pressures to enhance compression efficiency and economy.

This GTP would logically be built by the current Prudhoe Bay Producers for their benefit. The GTP would be located at their site, using infrastructure, maintenance, security and operators from existing facilities to minimize cost. The Producers would maintain control over the treatment plant, access any additional NGLs that might be produced, and access the CO₂ that would be produced as a source for a possible Immiscible Injection program for tertiary oil recovery. By maintaining control of the GTP, the CGF, the oil production facilities and the GTP would all have the same control source, minimizing any detrimental system impacts in the event that a plant shutdown would occur to one of those three facilities. After treatment at the GTP, the gas will be chilled and compressed to 2500 psi so that it could be injected into the main pipeline.

If however the producers refuse to build the GTP, LSCC/Sinopec will ensure its completion.

NORTH SLOPE GAS TREATMENT PLANT (GTP)

Rate (\$0.464 MCF)

Capacity = 4 BCF /D with expansion to 5 BCF/D

Utilization= 90%

Capital Cost	Raw gas, gathering system and GTP facility, Treatment of gas, chilling, compression and storage.	\$2.1 Billion
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Property Tax @ 2%		\$42 Million
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Cost per MCF

1. Capital Cost	\$0.009/MCF
2. 2% Property Tax	\$0.029/MCF
3. Operational Cost	\$0.250/MCF
4. Fuel Cost	\$0.080/MCF
5. Equipment repair, and replacement	<u>\$0.100/MCF</u>
Total	\$0.464/MCF

Total Rate \$0.464/MCFF will not be affected by the Gas Treatment Plant, because the Gas

Treatment Plant will be owned and operated by the producers. We estimate the gas treatment facility for 4 BCF/D will cost the producers \$2.1 billion. The producer will charge this tariff by adding to the gas wellhead price. If the wellhead price is \$2.00/MCF, the producer will charge \$2.464/MCF.

Gas Treatment Plant Process

After the gas has been processed at the producer facilities, the gas will need to be further treated to produce pipeline quality gas. The GTP will remove any water and CO₂, H₂S or other non hydrocarbon gases. The non-hydrocarbon gases will be sent back to be re-injected into the ground. The hydrocarbon gas will go to compressor station No. 1 where the gas will be refrigerated and compressed to 2500 psi before it is sent down the pipeline.

Infrastructure

Infrastructure will include temporary storage tanks, several buildings containing the compressor and refrigeration system. The infrastructure will include a water well, electrical power plant, heating plant, parking lot, and road to the main road system.

Accommodations

Each compressor station will work 24 hours each day, and will have accommodations for lodging and dining facilities for the workers. Each station will have a repair shop and a natural gas conversion plant to use as an energy source for the turbines that run the compressors and to provide electricity for the station.

2.1.3. LNG Project

The LNG project is the only plan that makes economic sense. In many previous studies, done by oil and gas economists, experts, and the oil companies, the conclusion has been the same; to build a large diameter pipeline from the North Slope to Canada, connect to either an existing Canadian pipeline or build a new Canadian segment through Canada to Chicago is economically infeasible. Yukon Pacific Corp. had an economically feasible idea to build a pipeline from the North Slope to Valdez where the gas would be converted to LNG and shipped to overseas markets. However, they could not find buyers for the LNG and had to give up.

LSCC/Sinopec has a buyer committed to purchasing 4BCF/D of LNG, and Sinopec will also be leasing the LNG tankers that will transport the LNG to China.

Pre-tax Profit Formula

The formula for pre-tax profit is as follows using the following assumptions:

1. Assumption: the North Slope Producers agree to commit 4 BCF/D or 1,460 BCF/YR to the LNG project.
2. Assumption: \$10.00 MCF⁴

LSCC/Sinopec carries all the monetary risk while the State of Alaska, North Slope producers, Federal Government will receive billions. The current tax laws must be revised to reflect the risk to the reward. The cost of operation and materials could increase dramatically over time and this should be addressed in the contract with the “Alaskans First” Pipeline Service Co.

The following table is reproduced in Appendix A and is also on the accompanying D in Excel format.

⁴ Currently LNG is selling in MACAO, P.R.C. at \$10.00 per MMBTU or MCF. The LNG market varies daily but \$10.00 per MCF will be used for the purposes of this calculation.

Annual Revenue and Cost Breakdown at \$10.00/MMBTU

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	1,643

Assume LNG is selling for \$10.00 per MMBTU to China
(\$10.00 per MMBTU = \$10.00 per 1,000 CF)

1,460.00 BCF/A	10.00	MCF =	14,600,000,000
Assume 0.5 BCF/D for Alaska Sales			

182.50 BCF/A	3.79	MCF =	691,675,000
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Total Revenue	\$15,291,675,000
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Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG =	4.722	/MCF x	1,460.00 BCF/A	6,893,974,000
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Tariff: Spur Line	1.526	/MCF x	182.50 BCF/A	278,495,000
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Total Tariff	7,172,469,000
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Net Revenue Before Tax (\$15.292 - \$7.172 = \$8.119 Billion)	\$8,119,206,000
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North Slope Producer	0.875	Share =	7,104,305,250
State of Alaska Royalty	0.125	Royalty =	1,014,900,750
Pipeline Operator Income	0.150	% of Tariff	1,075,870,350
State of Alaska Property Tax	0.020	Tax = \$32.78B*	655,600,000
Producers AK Corp. Tax	0.094	Corp Tax =	667,804,694
Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350	Corp Tax =	2,486,506,838
Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	1,014,900,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	667,804,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
	\$2,481,437,256

Total Federal Government Revenue:

35% of Producer Income of \$7,104,305,250	2,486,506,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
Total Federal Government Revenue	\$2,863,061,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	7,104,305,250
Less State 9.4% Corporate Tax	667,804,694
Less Federal 35% Corporate Tax	2,486,506,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	3,907,993,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$4,670,345,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Liquefaction

The LNG plant will be located at Anderson Bay, Valdez, Alaska. The location has been cleared for seismic activity. At Valdez, natural gas will first go through the NGL plant to remove impurities and recover NGLs such as propane, butane, ethane, and pentanes. The remaining methane gas will go to an LNG plant to be liquefied by cooling in a refrigeration system to -260° F. using LNG liquefaction technology. The plant will change the methane mixture into the cryogenic liquid state so that it can be stored in an LNG tank on the site for future shipping. A minimum of six (6) trains with the capacity for 5 MPTA will be used to get a total plant capacity of 30 MPTA with additional train expansion capacity in the future.

LNG PLANT COST, LIQUEFACTION COSTS, AND TARIFF RATE CALCULATION

Rates: \$1.777/MCF

Plant capacity 4 BCF/D, 1.460 CF/YR

Utilization Rate 90%

Capitalization cost for the LNG Plant = \$10.43 Billion

Capital financial by 5% interest/30 year

Annual Cost of Capital

\$6.69 Million

Cost per MCF

1. Capital Cost	\$0.046 /MCF
2. Fuel Cost	\$0.660 /MCF
3. Property Tax 2.0%	\$0.142/MCF
4. Operation Cost	\$0.609/MCF
5. Equipment Repair and Replacement	<u>\$0.320/MCF</u>
Total	\$1.777/MCF

Utilities

The facility will have its own electrical power plant and an LNG pressure-reducing plant to reduce the gas pressure from 2500 psi to 5 to 30 psi to be used at the LNG and NGL plants and the dock facility. 4BCF/D will be delivered, and the send-out volumes will be 30 MTPA.

Storage

The total storage capacity will be 20 million gallons made up of 40 one-half million-gallon tanks.

Marine Terminal

A marine terminal capable of loading six (6) large ocean-going LNG tankers and four (4) smaller LNG tankers at a time will be located at Andersen Bay. Four (4) smaller LNG tankers will be used to deliver LNG to Alaskan coastal communities. Facilities for refueling the tankers with Bunker fuel oil, water, and food supply for the journey to international markets and Alaska cities will be located at Andersen Bay.

Tankers

The LNG fleet will include twenty (20) ocean-going tankers, capable of carrying 145,000 to 180,000 m³, and four (4) smaller tankers, capable of carrying 50,000-75,000 m³. The small tankers will be Jones Act ships, and the ocean-going will not be Jones Act ships, because they will go to China. The ships will be built by shipyards in the U.S., China, Korea, Poland, and Japan and be leased by a shipping company. The ocean-going ships will cost \$300 million each. The Jones Act boats will cost \$250 million each.

MARINE TERMINAL COST

Rate \$0.538/MCF

Capital Cost	\$2.68 Billion
Capital finance by 5% interest/30 yr annual cost of capital	\$17.13 million
<u>Cost per MCF</u>	
1. Capital Cost	\$0.012/MCF
2. Fuel Cost	\$0.140/MCF
3. Property Tax at 2%	\$0.036/MCF
4. Operating Cost	\$0.250/MCF
5. Equipment Repair and Replacement	<u>\$0.100/MCF</u>
Total	\$0.538/MCF

Infrastructure

LNG and NGL plants with marine terminal unloading facilities will be located at Andersen Bay. The facilities will have their own utilities and roads. Construction cost of the LNG plant will be \$10.43 and construction cost for the NGL plant will be \$2.48 billion.

Accommodations

Accommodations will consist of dormitories, repair shops, and security facilities.

Re-gasification

Re-gasification plants, provided by the local community with assistance from the State of Alaska, will be located in the eleven (11) Alaskan cities mentioned above to supply LNG to local gas pipeline systems. These plants will be owned and operated by local communities and create jobs within the communities.

2.1.4 Gas Processing and NGL Markets

The NGL plant is an integral part of the LNG plant at Valdez and will be owned by the pipeline company. It will have a capacity of 4 BCF/D. The anticipated gas quality at the outlet

of the North Slope Gas Treatment Plant will be as follows: (ANGDA “Vendor Cost Estimate for Propane Extraction Plant,” Sept., 2004, Baker, p. 9, Table 4.1)

Pipeline Gas Composition

<u>Component</u>	<u>Pipeline Gas</u>
Carbon Dioxide	1.49
Nitrogen	0.69
Methane	90.33
Ethane	5.64
Propane	1.62
I-butane	0.09
N-butane	0.11
I-pentane	0.01
N-pentane	0.01
Hexane+	0.01
Total	100.00

The function of the NGL plant is to separate from the methane the following flammable gases: propane, butane, ethane, and pentane liquids. These flammable liquids will be separated according to their molecular density. They will be piped into the LNG plant where they will be refrigerated and liquefied to -260 degrees F. in a liquid form. The butane, ethane, and pentane will be stored separately in storage tanks and will be shipped to China for sale.

The propane will be put into 5,000 and 10,000 gallon portable tanks and will be shipped by barge to Seward, then by train system to Nenana for delivery by barge along the Yukon River and Interior Alaska. The same barge can also deliver propane to remote villages where they do not have an LNG re-gasification plant. The construction of this NGL facility will cost \$2.48 billion dollars.

NGL PLANT RATE COST

Rate = \$0.464/MCF

Plant Capacity 4BCF/D, 1460 BCF/YR

Utilization Rate 90%

Capital financed by 5% 30 yr on \$2.24 Billion

\$15.85 million/yr

Cost per MCF

1. Capital Cost	\$0.011/MCF
2. Fuel Cost	\$0.12/MCF
3. Property Tax 2%	\$0.033/MCF
4. Operating Cost	\$0.20/MCF
5. Equipment Repair and Replacement	<u>\$0.10/MCF</u>
Total	<u>\$0.464/MCF</u>

TOTAL TARIFF

1. Pipeline	\$1.327/MCF
2. LNG Plant	\$1.777/MCF
3. NGL Plant	\$0.464/MCF
4. Marine Terminal	<u>\$0.538/MCF</u>
Total	<u>\$4.106/MCF</u>

15% profit for:

Pipeline, NGL/LNG Plants and marine Terminal

\$0.616/MCF

TOTAL TARIFF CHARGE

\$4.722/MCF

Metering

The gas will be metered:

- Before and after it goes into the North Slope Gas Treatment Plant;
- Before and after each compressor station ;
- At every take-off point along the line at Fairbanks, North Pole, Delta Junction, Glennallen, Valdez, and the Spur line at Glennallen and Beluga River Field;
- Before and after each compressor station on the Spur line;

- Before and after the NGL plant;
- Before and after the LNG plant;
- Before and after the storage yard
- At every loading dock where LNG tankers are loaded.

Slug Catcher

The slug catcher will catch the majority at the North Slope Gas Treatment Plant (GTP), and the rest will be eliminated at the NGL plant.

Separation

The NGL plant will separate the LNG liquid by-products, such as propane, butane, ethane, and pentanes into different streams, and each will have its own storage facilities for transportation. Pentane and other heavy hydrocarbons will be exported as gasoline products. Propane will be exported as heating fuel to Alaskan communities. Butane will be used as a refrigerant or sold as fuel to China. Ethane can be re-injected into the LNG stream or used as a refrigerant.

Fractionation

A fractionation process will be used to separate the ethane, propane, butanes, and heavier hydrocarbons from the LNG stream, using a cryogenic gas processing technique.

Storage

There will be a twenty million gallon tank farm located at the Anderson Bay facility where NGLs can be stored temporarily until usage or shipping. The 5000 and 10,000 gallon propane bottles can be temporarily stored in the storage yard.

Transportation

Propane can be shipped by barge to the Port of Seward, and then loaded on railroad cars to ship to Nenana. From there, they will be barged on the Yukon River to communities along the river. Ethane, butanes, and pentanes can be shipped on the LNG ships to China.

Utilities

The facility at Andersen Bay in Valdez will have its own electric power plant, water treatment plant on site to support the operation of LNG and NGL plants. It will also have a waste water treatment plant and a water treatment plant.

Infrastructure

The infrastructure of the NGL plant includes electric power plant, water treatment plant, repair equipment workshop, dormitory for workers, dock facilities, conveyor and loading system, cranes for loading and unloading propane bottles, and 20 million gallon capacity tank farm.

Accommodations

The accommodations include SCADA communication and control center, administrative offices, warehouses, garage, a worker's dormitory, dining room, recreation facility, and laundry facilities.

LNG Ship Plan

It is the responsibility of the buyers of the LNG to lease or own a fleet of LNG ships to pick up the LNG from the LNG plant marine terminal and deliver to the buyer's home ports. From Valdez, Alaska to China's east coast is about 8 days of sailing and two days for loading, two days for unloading the LNG, for a 12 day trip. A round trip will be 20 days between China and Alaska.

A LNG tanker can make 17 round trips per year on the average. In order to ship 1,460 BCF/Yr of LNG, it would require a fleet of 20 ships of 150,000 M³ to 180,000 M³ LNG tankers to do the job. For Alaska buyers, a fleet of 4 small L G tankers, 75,000 M³ sized tanks would be used to ship the LNG and propane products to 11 Alaska cities and many smaller and remote communities. All buyers will be required to own or lease these LNG tankers from an international shipping company for Alaska/China. The current market indicates the shipping company will charge between \$1.00 to \$1.20 per MMBTU of LNG depending on which part of China and which ports are utilized.

For Alaska communities, the trip is much shorter and the LNG tankers can make several drops in one trip. The shipping company would probably charge between \$0.60 to \$0.80 per MMBTU of LNG depending on which cities and which ports.

The ships are very expensive to build. The Alaska/China LNG tankers can be built by foreign shipyards, such as China, Japan, South Korea, and Poland for about \$300 million each. For the Alaska LNG ships, it is required to the ships be built by U.S. ship yards, at least the hull and the power train. The ship can then add the cryogenic equipment at South Korea and still be qualified as a Jones-Act ship. The cost for these four 75,000 M³ LNG tankers is about \$250 million each. There are also many existing LNG tankers that can be bought or leased, but many of them already have long term leases with other LNG buyers, and there are not a whole lot of LNG tankers on the market for rent.

At this point, we do not know if the U.S. Government has an LNG export tax or not, but in China, the 17% import tax is not required for LNG products, which is a relief, but it may change due to future China Government policies for energy conservation. If the China policy does change, the buyer will ask the seller to compensate the difference on the purchase price.

An expert certification for LNG product will be filed with the U.S. Department of Commerce to get the permission to export LNG to China. The U.S. Government has been granting LNG export certificates to export LNG to Japan for the past 30 years. I do see the U.S. government continuing to grant LNG export certificates as the LNG export would help balance the trade deficit between the U.S. and China.

2.2 DEVELOPMENT PLAN

2.2.1 Front End Engineering Design Plan

Front End Engineering Design Plan

ORGANIZATION CHART FOR FEED DUTIES AND TASKS

*LSCC = 1 Sinopec = 2 U.S. Design Firms = 3

*Design Firms

Overall Engineering Design Manager	LSCC/Sinopec
A. Pipeline and Compressor Stations	1, 2
Corridor Survey	3
Geotechnical Engineering	3
Civil Engineering	1, 2, 3
Mechanical Engineering	1, 2, 3
Electrical Engineering	1, 2, 3
Petroleum Engineering	1, 2, 3
Structural Engineering	1, 2, 3
B. Gas Treatment Plant (GTP) by North Slope Shipper	
Site Survey	3
Geotechnical Engineering	3
Plant Design	3
Petroleum Engineering	3
C. Natural Gas Liquids Plant (NGL)	
Site Survey	3
Geotechnical Engineering	3
Plant Design	1, 2
Petroleum Engineering	1, 2, 3
D. Liquefied Natural Gas (LNG) Plant	
Site Survey	3
Geotechnical Engineering	3
Plant Design	1, 2
Petroleum Engineering	1, 2, 3
E. Marine Terminal and Storage	
Site Survey	3
Geotechnical Engineering	3
Dock and Terminal Design	1, 2, 3

Petroleum Engineering	1, 2, 3
F. LNG Ships	
Ship Builders from the U.S., China, Japan, Korea & Poland	1
G. Receiving station for LNG and Degasification Plants	
Site Survey	3
Geotechnical Engineering	3
Receiving Station for LNG	1, 2, 3
LNG Degasification Plant	1, 2, 3
H. Construction Cost Estimate	1, 2, 3
I. Field work, legal ownership investigation, environmental studies archeological surveys right-of-way inquiries, and other activities in support of all regulatory application requirements.	1, 2, 3

Management of this entire project will be the responsibility of the General Engineering Design Manager. Management of each item of engineering will have a Division General Manager, and under him will be Engineering Managers, Engineers, Designers, and Technicians. The Division General Manager will be responsible for the task items listed, and he, in turn, reports to the overall General Engineering Design Manager for his day-to-day tasks, progress, and schedules.

The resources of FEED will come from Sinopec General Engineering and Construction Divisions, and will be partially reimbursed by the State of Alaska AGIA Inducement funds. The total FEED and permit application, land leases, and land acquisition is estimated in sections 2.5.1. and 2.5.2.

The governing model is a straight pyramid, top down organization chart. Every engineer and technician will report to the division supervisor and they, in turn, report to the item general engineering manager. The items such as “Pipeline”, “LNG,” “NGL Plant”, “Marine Terminal”,

and “LNG Ships”, all report to the Overall Engineering Design Manager who has overall authority in FEED.

2.2.2. Stakeholder Issues Management Plan

Since our mainline from North Slope to Valdez is following the TAPS corridor, Alyeska Pipeline Service Company is our major stakeholder, LSCC/Sinopec will sit down with them to obtain permission to build the gas pipeline next to their oil pipeline. We will seek an agreement to share the line operation, line security, and maintenance personnel to reduce the high cost of operation.

Other stakeholders such as Indian tribes, Native Alaskans, land owners, communities along the pipeline, recreation users will be contacted. Public hearings and community meetings will be held to assess the concerns of the stakeholders about roads and facilities, migrating animals, salmon spawning streams and environmental issues.

Our team will also assist contractors, sub-contractors, labor groups, material and equipment providers to develop their interests and stake in this pipeline project, job creation for future projects, and on-going pipeline operation.

Government and non-governmental organizations providing skilled and non-skilled labor will receive funds from LSCC to develop training programs for the labor force needed during and after the construction of the pipeline project, including the 5,000 permanent jobs created to run the operation of the GTP, LNG, NGL plants, pipeline and compressor stations, mainline terminal, and personnel on the LNG ships serving 11 Alaskan cities.

The indirect permanent jobs also include propane tank distributors, barge personnel, transportation and local distribution system personnel.

While we will create 5000 direct permanent jobs, the indirect permanent jobs will also create a high number of new jobs. However, during the 4 years of construction of the pipeline project, the estimate for jobs is worth multi billions of dollars in wages and the 5000 permanent jobs are worth \$500 million a year for the next 30 to 50 years.

- The team will have conference meetings with all the stakeholders in Barrow, Fairbanks, Valdez, Glenallen, and Anchorage to discuss the concerns with the development of the natural gas pipeline, LNG, NGL, marine terminal facilities, and will promote local hire policies and sub-contractors to work with local firm policies.
- The team will have conference meetings and one-on-one meetings with local groups, contractors, labor unions, and material equipment providers to develop Alaskan hiring policies.
- The team will provide funds for the state labor training school at Seward, Alaska to train Alaskans who want to work on the construction of the pipeline project. This program would involve welders, equipment operators, NGL plant and LNG plant construction workers and operators.
- The team will work with all federal and state government agencies closely and provide up-to-date reports monthly, as well as seeking advice and approval for every major decision and milestone of the project, from engineering design to construction of the pipeline.

2.2.3. Commercial Plan

The commercial plan will address four fundamental topics as required by AGIA.

1. Major Project Development Issues

The producer of the gas on the North Slope, together with the State with 12.5% interest, must first agree to sell the gas to LSCC at the wellhead or alternatively ship gas on the pipeline. They must participate in Open Season to commit to a minimum of 4.5 BCF/D of gas (4 BCF/D for LNG and 0.5 BCF/D for Alaska in state use) at an agreed upon rate or sell it to LSCC at an agreed price and rate. The plan also calls for the producers to provide a Gas Treatment Plant to provide clean natural gas to meet the specifications of the pipeline.

- a. LSCC and Sinopec can negotiate either to buy the gas at the Gas Treatment Plant or as an LNG product at the terminal. It is LSCC's preference to buy all the gas required for LNG export at the wellhead (GTP exit). The instate buyers of the natural gas taken from the mainline to the five take-off points, including the spur line; along with the propane bottle sales and LNG sales to coastal communities will potentially add up to 0.5 BCF/D at the present time and for planning purposes this is the volume of instate demand 'reserved' by LSCC in the project for instate needs.. Since we have a commitment from China to buy the LNG, we can sell the remaining 4.0 BCF/D to Sinopec, China. The participation of Sinopec in this project is the key to marketing Alaska's natural gas. Instate demand can be met in the initial open season or through later pipeline expansion. LSCC is prepared; if necessary to hold a subsequent (later) open season for instate demand based on pipeline expansion and incremental supplies of natural gas along the pipeline.
- b. Since LSCC has a signed teaming agreement with Sinopec, Sinopec can bring a wealth of experience in pipeline design and construction, as well as experience in LNG plant design and construction. With their unlimited resources, they can also

provide the million tons of steel. Only they can procure the required huge amount of steel for this project on-time through another state-owned steel mill, Bo On Steel Co. and Nippon Steel of Japan. Sinopec also has the financial backing to lease 20 LNG ships through a state-owned shipping company in China. Sinopec can provide funds to make up for the difference for the portion of the project not guaranteed by the U.S. Government.

- c. LSCC is a 28-year Alaskan architectural, engineering, and construction firm. We have worked on the North Slope for the North Slope Borough, and had a 10-year working relationship with ARCO for Kuparuk oil field infrastructure development. LSCC also did construction inspection for the U.S. Coast Guard for all construction on the West Coast with a total construction cost of about \$1.5 billion. LSCC is licensed for civil, mechanical, electrical engineering, and architecture. Our construction license includes general contractor license, mechanical and process piping license, and electrical license. LSCC is a union shop with a signed agreement with IBEW local union for 25 years.
- d. In state needs can be fully satisfied through the initial open season and if required, the later expansion-related open seasons should they be held.

2. Assess Shipper Interest

- a. Potential shippers on the North Slope have indicated they will be selective in developing new projects. It is not known at this time how much interest the producers have in developing gas reserves on the North Slope. However, we will pursue open-season negotiations to develop a positive working relationship that will benefit the potential shippers, the State of Alaska, and the pipeline company.

- b. Develop Project Rates
- c. The project rate will be developed by dividing the total annual cost of the pipeline operation by the annual BCF of gas delivered for sale.
- d. Viable Open Season (See AGIA RFA)

2.2.3.1. Plan Prior to Open Season

The LSCC Plan Prior to Open Season includes the following activities.

1. Study the needs of energy in Alaska and how to use this project to benefit the Alaskan by lowering their home heating and electricity bills back to 1980's levels of less than \$200 dollars per month for a family of four.
2. Investigate the gas power research in the North Slope oil field and other known oil and gas fields.
3. Inform the North Slope shippers that the LSCC/ Sinopec will ask them to commit gas to the new pipeline.
4. Visit the shippers' headquarters and set up meetings, with the possibility of signing letters of Intent.
5. Inform all regulatory agencies that an Open Season Plan will be submitted soon.
6. Talks with U.S. Engineering firms to assess their professional experience on various topics such as engineering design, estimates, project management, geotechnical engineering, surveying, accounting, legal service, insurance and tax advice, with the goal of selecting experienced companies.
7. Establishment of a communication network with Sinopec, and other major U.S. consulting firms, set up organization plans, chain of authority and point of contact.
8. Interview and select personnel for key positions in the project organization.

9. Contact major U.S. and European Equipment companies and material suppliers' about the needs of this project.
10. Contact shipping companies for the need to lease 24 LNG ships.
11. Add more office space in LSCC Anchorage headquarters for the new personnel.
12. Plan to start Front End Engineering Design for engineering design which includes Field work, review existing EIS, and permit application, existing soils tests and route surveys.
13. A back-up contingency plan will identify the back-up project Manager and other key personnel. A core of managers will oversee the communication between the shippers and address their concerns so they will commit to a successful binding open season.

2.2.3.2. Plan for Open Season

The open season bidding process is an established regulatory mechanism with the purpose of allocating gas pipeline capacity without undue discrimination to different gas shippers. Among North Slope gas producers, three are currently considered main producers, ExxonMobil, British Petroleum (BP), and ConocoPhillips. Additionally, there are six to seven other companies considered to be small producers. The big three producers, however, control in excess of 95% of the total Prudhoe Bay Oil Field. The state also owns a 12.5% royalty interest in the produced gas. The status of the Point Thomson leases is unknown but it is anticipated that in some form or fashion the Point Thomson gas will be a part of the project and open season. And LSCC believes that the Point Thomson gas is required to make the project successful in the long term.

LSCC's preferred plan is to purchase the gas at the wellhead, so there will not be a need for an open season for the export gas (no interstate commerce). LSCC will ship the gas on its

own pipeline. For gas used in state there will be an open season under the RCA rules and procedures.

LSCC/Sinopac team will as required conform to all applicable FERC, and RCA regulations, especially US FERC 18 CFR part 157 order No. 2005-A, issued June 1, 2005 and Alaska Statute AS 42.06.

LSCC/Sinopac will:

1. Follow the criteria for the timing of open season.
2. Promote competition in the exploration, development, production and distribution of Alaska natural gas.
3. If open season results in exceeding initial capacity, provide for the transportation of natural gas other than from Prudhoe Bay and Point Thomson units.

Upon receiving license, LSCC/Sinopac will conduct a binding open season. Open season will be conducted for a period no longer than 36 months using the following criteria:

1. Submit to FERC if required and to the RCA no later than 90 days prior to beginning the Notice of Open Season, a detailed plan for conducting open season in conformity with FERC and RCA regulations.
2. Provide a 30 day public notice.
3. Conduct or adopt a study of Alaska's in-state needs, in-state delivery points and transportation rates, independently from out-of-state bids for delivery.
4. Conduct a study of the needs of shippers who have made their interest known to bid during open season.

5. Establish a presumption in favor of rolled-in pricing for expansion up to the point that it would cause there to be a subsidy of expansion shippers by the initial shippers.

After LSCC/Sinopac receives approval if needed by FERC and the RCA the following shall be implemented:

1. Notify intent to commence open season upon approval by FERC if necessary, and the RCA, to those parties who may be interested via internal website, press releases, direct mail solicitation and other advertising.
2. Send notice to State of Alaska and Federal Coordination of Alaska Natural Gas Transportation Project.
3. Develop methodology to award the over-subscription.
4. Solution through pre-subscription or was bid in the open season on same dates, terms and conditions to any pre-subscription agreement shall be allocated on a pro rata basis and no other capacity acquired through the open season shall be allocated.
5. Consider good faith bid after initial open season.

The open season period will be no less than 90 days and be in accordance with NOPR's requirements. This time frame can be extended to allow prospective shippers to submit bids without discrimination or preference of any kind and to assure shippers have equal opportunity to obtain access to capacity on the project in the open season but shall not exceed the 36 month time limitation.

This is an open and non-discriminatory public policy and LSCC/Sinopac will conform to all regulations regarding the execution of open season.

As required in the RFA, LSCC is providing the following information:

a) There is no minimum volume for the instate open season. However, LSCC does require the producers and the state to sell at the wellhead (GTP exit) at least 4.0 BCF/D of gas for LNG export gas purposes. Instate shippers can nominate whatever volumes they require.

b) Potential shippers must identify materials that prove that they are credit worthy and they must state the volume and quality of the gas they propose to ship. They also must identify the duration of the proposed shipping period. LSCC anticipates that a minimum bid of 20 years duration will be required.

c) Instate nominations are not required for this project. The 0.5 BCF/D of instate usage “reserved” for planning purposes is not necessary for successful project economics. This instate volume can be used as LNG export volume if it is not used in state. This gas cannot be used in industrial hydrocarbon products such as fertilizer, urea, and ammonia.

d) Bid evaluation will be based on contract length, gas quality specifications, shipper credit rating and the NPV of the bid.

e) In cases of over subscription or tie bids volumes will be prorated and shippers will be asked if they are still interested in shipping the prorated volumes

f) Bids not meeting b) above are non-conforming.

g) 3 to 6 months will be required to evaluate responses

h) Credit worthiness will be evaluated by an independent third party expert

As noted above shipping commitments by third parties is not required for this project to move forward. LSCC can and will fill the pipeline with LNG export gas if required.

2.2.3.3. Precedent Agreements

Instate shippers will have to sign precedent agreements that will be developed after the LNG export volume gas purchase contracts are executed between the producers, the state and LSCC. Absent precedent agreements with instate shippers; pipeline capacity will be allocated to LNG export volumes

2.2.3.4. Proposed Services and General Tariff Terms

Gas treatment is to be performed by the producers at their own cost. LSCC proposes to purchase gas on the North Slope and at other delivery points along the pipeline. Shippers will be allowed to ship gas on the pipeline for instate deliveries. Producers will be allowed to supply pipeline quality gas to the pipeline along its length. Gas will have to meet pipeline specifications, such specifications to be developed, but the pipeline will accept at least methane through butane hydrocarbons and acceptable low volumes (traces) of inert gases. LSCC believes the producers should condition their own gas prior to delivery to the pipeline.

2.2.3.5. Rate Structure and Supporting Information

Gas for LNG export will be purchased by LSCC at the wellhead (GTP exit) and at other points along the pipeline, shipped on the pipeline owned by LSCC and liquefied at the facility owned by LSCC, so no third party or tariff services are needed for this class of gas. A basic mile-sensitive BTU-based cost of service tariff will be developed for instate service that is acceptable to the RCA.

Shippers will be required to provide in-kind fuel.

Expansion will be based on a 70/30 to 80/20 debt/equity ratio.

LPG and NGL volumes, if any, will be recovered and fractionated in Valdez and marketed by LSCC. This rate information is supported by Sections 2.1.1., Alaska Pipeline, 2.1.3., LNG Plant & Marine Terminal, and 2.1.4. Gas Processing and NGL Market in this proposal. The rates and costs used in this proposal are based on today's price and will be adjusted annually with the escalation of operations, labor, material, fuel, equipment repair and replacement, and transportation.

The following table is reproduced in Appendix A and is also located on the accompanying CD in Excel format.

Rate Structure and Supporting Information Analysis

Marine Terminal Cost:

Cost Per MCF:

• Capital Cost	\$0.012	/MCF
• Fuel Cost	\$0.140	/MCF
• Property Tax at 2%	\$0.036	/MCF
• Operating Cost	\$0.250	/MCF
• Equipment Repair & Replacement	\$0.100	/MCF
Total	\$0.538	/MCF

NGL Plant Rate Cost:

Cost Per MCF:

• Capital Cost	\$0.011	/MCF
• Fuel Cost	\$0.120	/MCF
• Property Tax 2%	\$0.033	/MCF
• Operating Cost	\$0.200	/MCF
• Equipment Repair & Replacement	\$0.100	/MCF
Total	\$0.464	/MCF

LNG Plant Cost:

• Capital Cost	\$0.046	/MCF
• Fuel Cost	\$0.660	/MCF
• Property Tax 2%	\$0.142	/MCF
• Operating Cost	\$0.609	/MCF
• Equipment Repair & Replacement	\$0.320	/MCF
Total	\$1.777	/MCF

Pipeline Cost:

• Capital Cost	\$0.294	/MCF
• Fuel Cost	\$0.190	/MCF
• Property Tax 2%	\$0.243	/MCF
• Operating Cost	\$0.200	/MCF
• Equipment Repair & Replacement	\$0.400	/MCF
Total	\$1.327	/MCF

Summary:

• Marine Terminal Cost	\$0.538	/MCF	
• NGL Plant Rate Cost:	\$0.464	/MCF	
• LNG Plant Cost:	\$1.777	/MCF	
• Pipeline Cost	\$1.327	/MCF	
Total	\$4.106	x 0.15 (Profit)	\$4.722

2.2.3.6. Alternative Ratemaking Methods and Incentives

LSCC is not proposing any alternative rate making methods at this time, but reserves the right to propose them in the future.

2.2.3.7. Negotiated Rates

No plans for negotiated rates are planned at this time, but LSCC reserves the right to propose them in the future.

2.2.3.8. Anchor Shipper Incentive Rates and Commitments to Rates for Expansion Capacity

Since LSCC will be the anchor shipper no other anchor shipper incentive rates are proposed at this time, but LSCC reserves the right to propose them in the future.

Other than conditional (as stated in the RFA) rolled in rates for expansion, LSCC is not proposing any incentives for mainline capacity expansion.

2.2.3.9. Commitment to In-State Service

As per AS43.90.130 (12) and (13) Applicant must

(12) Commit to provide a minimum of five delivery points of natural gas in the state

No problem. We can produce delivery points at Fairbanks, North Pole, Delta Junction, Glenallen, the spurline, and Valdez.

(13) Offer firm transportation service to delivery points in this state as part of the tariff regardless of whether any shippers bid successfully in a binding open season for firm transportation delivery service to delivery points in the state

LSCC offers distance sensitive rates to delivery points in the state consistent with 18 C.F.R. 157.34 (c) (8), each of these commitments must be clearly set forth in all Applications.

To the extent that LSCC knows the approximate location and delivery capacity for the instate delivery points as follows:

Spurline	300 MMCF/D
Fairbanks	120 MMCF/D
North Pole	30 MMCF/D
Delta Junction	10 MMCF/D
Glennallen	10 MMCF/D
Valdez	<u>30 MMCF/D</u>
Total	500 MMCF/D (.5 BCF/D)

LSCC understand that one of the purposes of AGIA is the maximization of benefits to the people of the state. Providing Alaskans access to the state's natural gas resources on reasonable terms is an important goal of the state in the award of an AGIA license. LSCC feels the best way to help Alaskans is by providing affordable gas to heat homes and generate electricity.

Space to ship in state gas that will meet in state needs is included in the initial pipeline design—up to 0.5 BCF/D. If instate demand is not present after initial open season, design and construction, or it grows in later years, then instate demand can be satisfied through expansion of the pipeline if suppliers of incremental volumes of gas are present somewhere along the line. The design of the line allows for expansion of 1.0 BCF/D of capacity.

LSCC is committed to making up to 0.5 BCF/D of instate capacity available at the initial open season.

2.2.3.10 Rate Treatment of State's Reimbursement

Per AS 43.90.130(18), Applicant must “commit that the state reimbursement received by a licensee may not be included in the applicant’s rate base, and shall be used as a credit against licensee’s cost of service.” LSCC will pro rate the reimbursement between debt and equity.

2.2.3.11 Minimizing the Effect of Cost Overruns on Rates

Per AS 43.90.130(11), Applicant shall “describe the means for preventing and managing overruns in costs of the proposed project, and the measures for minimizing the effects on tariffs from any overruns.” Any cost overrun will be incorporated in to the tariff. Cost overrun is defined as any cost over and above the cost estimates made prior to start of construction. If costs increase between the time of initial open season and prior to construction then those parties that made commitments at the initial open season will be informed.

2.2.3.12. Plan for North Slope Gas Treatment Plant

The applicant feels strongly that the gas producer has an obligation to supply the clean gas to the pipeline transport; the gas must meet the gas specifications; therefore, LSCC/Sinopec will negotiate with the producers to build the North Slope Gas Treatment Plant. However it is estimated that the producers could build the GTP for \$2.1 billion dollars. Additionally, the producers would have a \$0.464/MCF tariff on the gas they process. If however the producers refuse to build the GTP, LSCC/Sinopec will ensure its completion.

2.2.3.14 Plan for LNG Project

LSCC’s preferred option is to purchase the gas for LNG export at the exit of the producer-built GTP or at other points along the pipeline and then ship the gas on its own pipeline. It will

then liquefy the gas at its own liquefaction plant at tidewater. In this case there would not be any interstate commerce or third-party services required. LSCC will apply for all export permits and certificates of public convenience as required. In state needs will be serviced through instate open seasons using the RCA rules and procedures as discussed elsewhere in this proposal.

Per AS 43.90.130(2) (D) (ii) “If the proposed project involves marine transportation of liquefied natural gas,

- A description of the marine transportation services to be provided –internally provided by the project sponsor. **(Refer to section LNG Ship Plan)**
- A description of proposed rate-making methodologies—RCA rules for instate shippers. Internal shipping and liquefaction costs for export LNG volumes. **(Refer to section 2.1-Rate Calculation)**
- An estimate of rates and charges for all services by third parties. There is not a third party involved in this project; therefore this section does not apply.
- A detailed description of all proposed access and tariff terms for all liquefaction services internally provided by the project sponsor. **(Refer to Section 2.1 Rate Calculation)**
- A complete description of the marine segment of the project including
 - The proposed ownership of the Marine Terminal is by “Alaskan’s First” Service Company as the project sponsor.
 - Control of the project is through the project sponsor.
 - Cost of export is internal to project sponsor.
 - Destination will be China.
 - Re-gasification facilities will be located in China
 - Pipeline facilities needed for transport to market destinations China

- Entity or entities that would be required to obtain necessary export permits and licenses or a certificate of public convenience and necessity from the FERC for the transportation of liquefied natural gas in interstate commerce if United States markets are proposed—project sponsor export license
- All rights of way or authorizations required from a foreign country--China

If the proposed project includes an LNG plant, the Applicant shall provide a good faith estimate of the rates it proposes to charge for

- marine tanker service will be charged by buyer of LNG
- re-gasification service by buyer of LNG
- any additional transportation service to the natural gas pipeline infrastructure

The above charges will be internal to the project sponsor.

To the extent that an Applicant proposes for third parties to provide any of these services it shall

- There are no third parties in this operation.

Applicant shall also describe

1. The basis for selecting the proposed destination markets—China, see letter of intent.

2. Commit to its proposed destination markets for LNG. This shall include

A. location of re-gasification terminals --China

B. a description of any agreements Applicant has to receive and sell its LNG at such destination terminals—see letter of intent from China

Applicant must also describe

- The current capacities and levels of utilization of the take-away pipeline infrastructure or market. The LNG Liquefaction capacity is 4 BCF/D with 1 BCF/D expansion capacity.

- Demonstrate that adequate capacity or market exists to accommodate the proposed send-out volumes. The current use of the capacity is 4.5 BCF/D.
- Include a discussion of any major facility expansions or modifications that will be required to accommodate the proposed send-out volumes. Our LNG facility is designed to handle 5 BCF/D.

If the proposed LNG markets are not located in the United States, Applicant must

- Discuss plans to obtain U.S. export authorizations. LSCC plans to obtain the U.S. Export certificate as soon as possible.
- Commit to the timing of the filings to obtain such authorizations—LSCC will apply for the appropriate export licenses

If the proposed project involves marine transportation of liquefied natural gas between ports of the U.S., Applicant should

- Discuss plans to transport cargoes in U.S. built and documented vessels in compliance with Sec. 27 of the Merchant Marine Act of 1920, commonly referred to as the Jones Act.

The LSCC plan is to convert the gas to LNG and ship to China's market. Since LSCC decided to do this, at the end of the gas pipeline, a NGL Plant will be built to separate the methane from the rest of the flammable gases of Pentanes, Butane, Ethane and Propane. A portion of Butane and Propane can be used as refrigerant for the refrigeration system. The rest of the gas can be separated as liquid form by the LNG process. When the gases become liquid, it will be separated to Propane and will be filled into the 5000 Gal and 10,000 gallon tanks for shipping to Seward. From there it will be shipped by train to Nenana, unloaded to barges and

delivered to all the Alaskan communities along the Yukon River and other remote communities for heating and generating electricity.

The methane gas will be refrigerated to -261°F . It becomes LNG will be put in storage on the \$20 million gallon storage tank farm at the marine terminal for shipping to China. The other products such as Pentanes, Butane and Ethane will be shipped separately to the China market by storage tanks.

A fleet of 20 LNG tankers will ship the LNG to China all year round. It will take eight days time plus 4 days loading and unloading time. These ships will be leased from a Chinese shipping company at a capital cost of \$6.0 billion for 20 LNG ships. The shipping rate of \$1.00 per MMBTU is the current rate for that distance. Four of the smaller LNG tankers are used to ship LNG to Alaska coastal communities. These ships will be built in U.S. ship yards to meet the Jones Act requirement and be leased by Alaskan LNG buyers.

The tariff rate was calculated by the capital cost, property tax of 2%, fuel cost, operating cost, equipment repair and replacement cost, all in turn of \$dollar per MCF (thousand cubic feet) of natural gas. (See calculations on previous pages regarding the pipeline and marine terminals.) The total is \$4.722/MCF.

The only separate rate is the shipping rate which is about \$1.00 to \$1.20per MMBTU by the shipping company in China.

For in state, the LNG will be shipped to 11 Alaskan cities at about \$0.60 to \$0.80 per MCF.

Since the state gets 12.5% royalty of the gas and taxes on billions of dollars, the state should use this money to subsidize the Alaskan fuel cost of heating and generating electricity. With a 90% subsidy, the cost of 1MMBTU, (or MCF) would only cost Alaskans \$0.32 per MCF. This subsidy should apply to all Alaskan.

LSCC/Sinopec will comply with the United States EPA's implementation practices for controlling carbon emissions from natural gas systems. In our project, the largest amount of CO₂ will come out from the North Slope producers estimating that it would be up to 12% of the 4 to 5 BCF/D. However, at the North Slope CCP Plant, producers have been able to re-inject the CO₂ back into the underground reservoirs. In the process, they use 18 large compressors to do the job. This process has been approved by the EPA. The CO₂ emission levels from these 18 large 35,000 hp compressors have been approved by the E.P.A.

For the compressor stations along the gas pipeline, each station has a 75,000 hp operation capacity to keep the pressure loss on each segment of the pipe and to maintain a working gas pressure of 2,500 psi. So, if the EPA approved the 630,000 hp worth of compressor stations at the North Slope "Central Gas Processing Facility" (CGF), it should also approve the 75,000 hp compressor stations along the proposed gas pipeline.

The use of fuel is tremendous for the gas separation and liquefaction at both the NGL plant and LNG plant. LSCC/Sinopec will provide engineering calculations for CO₂ emission control devices, such as scrubbers on all the compressor exhaust stacks to keep the CO₂ emissions under control. LSCC/Sinopec will submit these plans to the EPA for approval. LSCC/Sinopec will also consider other remedies to CO₂ emission control as well.

2.2.3.15 Plan for Gas Processing and NGL Markets

There is no Chinese import tax for shipping LNG to China. The regulation facility in China is not part of our cost. The buyer in China will pay the market rate of the LNG according to their Guangdong Formula. The current price of LNG selling in China is between \$8 and \$10 dollars per MMBTU. IF the oil price goes up the LNG price also goes up.

Assume the LNG is selling at \$8.00/MMBTU

Revenue	=	\$8.00
Shipping Costs	=	\$1.00
Tariff	=	<u>\$4.772</u>
		\$13.722 /MMBTU (MCF)

After Cost	=	\$2.278 /MMBTU (MCF)
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Wellhead price	=	\$2.278
-shipper GTP tariff	=	<u>-\$0.464</u>
		\$1.814/MCF

Assume the LNG is selling at \$10.00/MMBTU

Revenue	=	\$10.00
Shipping Costs	=	\$1.00
Tariff	=	<u>\$4.722</u>
		\$15.722/MMBTU

After Cost	=	\$4.278 /MMBTU (MCF)
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Wellhead price	=	\$4.278
-shipper GTP tariff	=	<u>-\$0.464</u>
		\$3.814/MCF

2.2.4 Regulatory Plan

The regulating agency FERC and the State of Alaska both want the North Slope Gas to benefit Alaska and lower 48.

For Alaskans, receiving gas at \$0.32 per MMBTU is like paying .32 cents per gallon of oil which will reduce their home heating costs and electricity charges by local utilities to less than \$200.00 per month.

The income received by selling 4BCF/D of LNG to China is a trade surplus of \$14.60 billion in revenue, (for LNG selling \$10/MMBTU) which can balance the trade deficit of the country.

The regulatory agent should see it as a WIN-WIN situation for both Alaska and the U.S.A.

2.2.4.1. Regulatory Approvals

The following is a list and explanation of all major regulatory approvals required for its proposed project (e.g., certificates of public convenience and necessity) including

- Federal and State of Alaska
 - There are an estimated 12 permits which represent most of the federal and state regulatory agencies required.

The Federal and State permits required are as follows:

1. U.S. Federal Energy Regulatory Commission, Declaratory Order
2. Presidential Finding Concerning Alaska Natural Gas
3. Trans-Alaska Gas Systems, State Right-of-Way Application
4. Trans-Alaska Gas System Final Environmental Impact Statement

5. AHTNA, Inc. Right-of-Way Agreement
6. Trans-Alaska Gas System Conditional Right-of-Way Lease
7. DOE/OFE Authorization for Export of Natural Gas
8. DOE/OFE Option and Order
9. DOE/OFE Option and Order
10. Liquefied Natural Gas Final Environment Impact Statement
11. Order Granting NGA Section 3 Authorization for Site Construction and Operation of Liquefied Natural Gas Facility
12. Alaska Department of Environmental Conservation Air Quality Construction Permit

Some of these permits were obtained already for the North Slope to Anderson Bay pipeline route which is formerly Yukon Pacific Corporation (YPC), and can be purchased from the Yukon Pacific Corporation for a fee to shorten the time frame of the project. The YPC permits can apply to a section or most of the route, although some permits may require a renewal or new application from the State and Federal agencies.

Since LSCC plans to ship LNG to Alaskan cities and China here is a list and explanation of all regulatory approvals which apply to that type of project.

- The shipping of LNG to Alaskan communities and China requires the approval of the U.S. Department of Transportation; the U.S. Department of Commerce; the U.S. Department of Treasury; the U.S. State Department, especially with regard to the Jones Act requirement.
- The other permits that may be required will be the local city and state permits that govern the building of an LNG terminal receiving dock, the associated storage, re-

gasification and distribution facilities, and the local pipeline route that runs through the cities and the state.

- The requirement that the project meet the qualification criteria specified under Section 103 of the Alaska Natural Gas Pipeline Act of 2004 (15 U.S.C. 720), Section 9 of the Alaska Natural Gas Transportation Act of 1976 (15 U.S.C. 719g) and the U.S. Federal and State of Alaska Gas Pipeline Act of 2004 may not apply to our project, since it does not have any interstate transportation and is not going through Canada.
- After being selected by the State, the permit application process will be started to comply with the AK Natural Gas Pipeline Act and the AK Natural Gas Transportation Act, and will refer to our corporation attorney to handle the legal questions and application.
- Any claimed exemption from the Natural Gas Act (15 U.S.C. 717, et seq) will be fully documented with an opinion letter from Applicant's counsel or a declaratory order from FERC.
 - Our corporate attorney will review and recommend any change to the application and will file claimed exemption if needed accordingly. If we can use some of the permits obtained earlier by the Yukon Pacific Corporation (YPC) and need to modify our project, we will instruct our corporate attorney to explain the basis of the changes to the regulatory agencies for new approval.
 - Since the permits in the North Slope to Valdez route has regulatory approvals have already been obtained for Yukon Pacific, LSCC will update the application and re-submit for approval.

2.2.4.2. Rights-of-Way

Applicant should provide a list and explanation of

- All major rights-of-way
 - We are aware that different projects have different rights-of-way. The North Slope to Anderson Bay route is the simplest, since it follows the Alaska Oil pipeline route. There would be a minimum of rights-of-way to be secured if we can use the same right-of-way for the oil pipeline project. Otherwise the right-of-way will be required for other projects which include private, tribal, state, local, borough, and federal land rights-of-way.
- Authorization will be obtained from APSC and other land owners.
- Accelerated approvals required for its proposed project
 - The other related approvals are the U.S. Clean Air Act and Clean Water Act when we built the LNG and NGL plants at the marine terminal and other permits related to marine terminal construction.
- Describe the plan for obtaining these authorizations
 - After we obtain the license from the State of Alaska to build the pipeline, we will hire consultants and consulting firms and lawyers in Washington D.C. to apply for the authorization.

2.2.4.3 Commitment for FERC-Certified Project

Per AS a43.90.130 (3), to the extent the proposed project will be subject to the jurisdiction of the FERC:

- LSCC will commit to conclude a binding open season that is consistent with 18 C.F.R. Part 157, Subchapter B and 18 CFR Sections 157.30-157.39 by a date certain which must be set forth in the Application and must be no later than 36 months after the date the License is issued. (See section 2.2.3.2. Plan for Open Season)
 - If LSCC is selected to build the Alaska Natural Gas Pipeline, LSCC will comply with the 36-month open season that is consistent with 18 C.F.R. Part 157, Section B and 18 C.F.R. Section 157.30-157.39 as set forth in the application.
- LSCC will commit to apply for FERC approval to use the pre-filing procedures set out in 18 CFR Section 157.21 by a date certain which must be set forth in the Application.
- LSCC will commit to apply for a FERC Certificate of Public Convenience and Necessity to authorize the construction and operation of the proposed project by a date certain that must be set forth in the Application.

The dates certain must be consistent with the Schedules submitted with the proposed project.

(See our detailed project schedule in section 2.6)

2.2.4.4 Commitments for RCA Certified Project

LSCC will commit to conclude an open season under AS 42.06 within 36 months of award of the license and will apply for a certificate of public convenience with 6 years.

2.2.5. Local Project Headquarters Plan

A local headquarters will be established at 821 N St., Anchorage, AK 99501, where the Little Susitna Construction Co. has been located for the past 28 years. It will provide adequate

space for the first phases of the project and has the potential for expansion as the project requires more space. LSC will provide in-house architects, civil, electrical, mechanical, structural, and environmental engineers, as we have for the past 28 years. LSC will also hire new staff for geological/soil engineers, surveyors, geologists, petroleum engineers, reservoir engineers and pipeline corrosion engineers to the project.

LSCC will utilize existing headquarters space of 1200 S.F. and will lease more space in the same building or from a midtown office building to accommodate the staff of architects and engineers plus the supporting staff. There are many large and new office buildings in Mid-town Anchorage, around C Street and Northern Lights Boulevard.

The office space will increase as the staff increases and we will also lease a warehouse and set up a distribution center for the duration of the project.

2.3 EXECUTION PLAN

2.3.1. Project Execution Plan

Upon the successful award of the AGIA license, LSCC and ZPEB SINOPEC will form a new entity for managing the entire project, referred to here as the LSCC/ZPEB Core Team. The Core Team will meet with the State of Alaska representatives to establish a common scope definition and communication procedure. The key to good project control and risk management is a common understanding of scope and good communications.

Throughout the project, the Core Team will be soliciting and evaluating bids from subcontractors, suppliers, manufacturers and construction companies. In all cases, the request for bids will be fair, follow all government guidelines, follow Alaska Hire desires and be competitive. Decisions will be fair, based on experience, ability to perform the work, ability to meet schedule, competitive pricing and regulatory compliance.

During the initial project planning, the Core Team will solicit and select a well experienced technical subcontractor to conduct the technical study, including surveying, right-of-way, and land acquisition for selection of a preliminary project design basis. The project design basis will be used to develop the scope and FEED. This subcontractor will perform the activity that includes geotechnical engineering investigation, soil sampling, investigating Native artifacts and burial grounds to support the design and the permitting process. It will take a twelve month period to get this field data. However, the Alaskan First segment of the pipeline has been thoroughly investigated when the Alaska Oil Pipeline was built in 1970, and we can update this data.

The Core Team will organize a group of technical and legal staff to develop a plan for permit application and Regulatory compliance in the U.S. and State of Alaska. This group will

be the main contact and control for obtaining the required permits within a timely schedule. These activities will include technical and legal support during the permitting application and agency reviews for U.S. Environmental Impact Statement (EIS) and State of Alaska, Department of Environmental Conservation.

After completion of the design basis, LSCC and ZEPB SINOPEC will start the Front End Engineering Design (FEED). LSCC would hire Alaska and U.S. engineering firms to assist in the design and engineering of the project components. The engineering firms would have a collaborative work practice that engages all of the project's multidisciplinary team in the project's development. They would have engineering project automation tools to streamline work and integrate information from multiple databases. These tools include design modeling, engineering analysis, project management, scheduling, and cost estimating. These tools enhance the ability to improve project schedule, control cost, and enhance quality and safety.

The Core Team will solicit and select an experienced national contractor to develop project cost estimates for engineering design, permitting, construction, staffing plan, post-construction operations and maintenance, and cost of the facilities. This contractor will have Program and Project Management tools to monitor and control project planning, provide a project performance overview, integrate reliable, timely subcontractor information and have an objective to deliver projects on schedule and within budget.

The Core Team will organize a group of commercial, legal and technical staff to communicate with North Slope gas shippers for mutual benefit terms and agreement for the shippers' interest to put gas into the pipeline or sell the gas at well heads. Additionally this group

will update economic analysis for project viability, establish cost of project to outline the tariff principles, and coordinate buyer arrangements.

The Core team will solicit and select an experienced national construction project management firm to run the construction project. This firm will have experience providing world-class, comprehensive construction services for a variety of domestic and international projects. The firm will have a strong commitment to Health, Safety & Environmental (HSE) issues.

To optimize use of local resources, improve project quality, and promote sustainable community relationships, the firm will implement a program for training craft and construction personnel. The training programs will help improve worker qualifications, reduce turnover and absenteeism, and increase productivity.

The firm will use methods to monitor construction quality and track materials or employ advanced welding processes to improve productivity, and incorporate advanced construction technologies.

The Core Team will organize a group of commercial, legal and technical staff to conduct the procurement phase of the project for major and long lead items. With the LSCC/Sinopec as the procurement officers, the materials of the steel pipeline and LNG, NGL, GTP plants, the compressors and the ASTM pressure vessel tanks can be obtained without delay and under budget.

2.3.2. Managing Capital Costs

The Core Team will be using a comprehensive cost management software package called Microsoft Office Project Professional 2007 for the overall control of the capital costs and

schedule. The major subcontractors will have their own proprietary software programs to maintain control and manage capital costs. These programs will feed into the overall Project program.

2.3.3. Project Labor Agreement

Upon the successful award of the AGIA license, LSCC and ZPEB SINOPEC will form a new entity for managing the entire project, referred to here as the LSCC/ZPEB Core Team. This Core Team commits per AS 43.90.130(17) to negotiate, before construction, a comprehensive collective bargaining agreement, to the maximum extent permitted by law, between the Core Team and the appropriate labor representatives to ensure expedited construction with labor stability for the project by qualified residents of the state. The project labor agreement may include provisions requiring, to the maximum extent permitted by law, contractors and subcontractors, of all tiers, to recruit and hire qualified Alaska residents from throughout Alaska, including apprentices and other persons that have received or are receiving training through state or federally funded programs.

2.3.4. Alaska Hire

This Core Team commits per AS 43.90.130(15), to the maximum extent permitted by law, to:

- (A) Hire qualified residents from throughout the state for management, engineering, construction, operations, maintenance, and other positions on the proposed project;
- (B) Contract with businesses located in the state;
- (C) Establish hiring facilities or use existing hiring facilities in the state; and

- (D) Use, as far as practicable, the job centers and associated services operated by the Department of Labor and Workforce Development and an Internet-based labor exchange system operated by the state.

The Alaska Gas pipeline project is one of the world's largest construction projects, 3 times bigger than the Alaskan Oil Pipeline Project and 190 miles longer, counting the spur line. It requires a large quantity of steel pipe, large compressors and equipment as well as a large pool of skilled labor.

The material and equipment can be procured through our procurement office. With the world-wide network to which we will have access, LSCC /Sinopec will be able to fill the order. However, in the skilled and non-skilled labor force, LSCC will work with the State for the training and supply of this large labor force.

During the pre-construction phase, a large non-skilled labor force is needed to clean the route, installing the gravel pad foundations for the compressor stations and building some roads to a staging area. There is also be some land clearing in Anderson Bay and leveling of the hillsides to make room for LNG storage tanks and an LNG plant and NGL plant and other marine docking facilities which require labor that Alaska is ready to supply.

However, in the construction phase, the demand for the skilled and non-skilled labor is in the tens of thousands to fill the large number of construction jobs that will be created under this project and sub-projects. The availability of skilled workers in Alaska and the U.S. is a concern to the contractors and sub-contractors. LSCC will work with the State of Alaska Department of Labor and workforce development to help in the training and development of such a large pool of workers.

LSCC will comply with all valid federal and state laws regarding local hire and Alaskan hire, as well as contracting to Alaska business with oil field service and construction experience

and will reserve the right to hire out-of-state workers and business if Alaska cannot meet the demand.

The project logistics for both summer and winter construction requires a work force to work all year round for material handling, worker support camps, shipping equipment to several job sites through various ports on the North Slope, and in the Southcentral port of Seward, Valdez, and Anchorage, then transport it to railroads and trucking to the job sites.

To the extent of 4 years of construction by qualified Alaskan labor, skilled and non-skilled, is a 20,000 person workforce that may require additional laborers to enter the pool of Alaskan work force.

The State would have a number of training facilities to train skilled workers. The U.S. Federal legislation ANGPA (Alaska Natural Gas Pipeline Act) mandates the U.S. Department of Labor to provide a grant to the State of Alaska to set up training facilities to train skilled laborers.

LSCC would like the State to develop these and other training programs that could increase the number of skilled workers to fill these construction jobs.

LSCC will contribute money to the State training program for the following job descriptions:

- **Skilled laborers:** such as welders, pipe fitters, and electricians;
- **Non-skilled laborers:**
- **Equipment operators:** to lay pipe, run forklifts, dozers, backhoes, and other heavy equipment;
- **Truckers:** to deliver materials, haul away excavation materials, soil, rocks, and etc.;
- **Technicians:** in X-ray testing; sonic testing, and computer technology;
- **Apprentices:** Students in all Alaska school districts to be informed of up-coming job opportunities by apprenticeship programs of different unions that will supply labor to the work force.

Contractors and sub-contractors will be given incentives by LSCC to:

- **Hire union work force:** journeymen, and apprentices and sign employment agreements with the unions.
- **Provide on-the-job training programs:** for new hire employees.
- **Provide job openings, job descriptions, and required skill levels for expected positions in advance to the State Dept. of Labor:** so they can prepare their job training programs according to the future need.
- **Sign a non-strike agreement with all the unions:** so there will be no delay of the project due to strike.

2.4 OPERATIONS PLAN

2.4.1. Expansion

Upon the successful award of the AGIA license, LSCC and ZPEB SINOPEC will form a new entity for managing the entire project, referred to here as the LSCC/ZPEB Core Team. The Core Team will meet with the State of Alaska representatives to establish a common scope definition for expansion investigation for the Alaskans First Pipeline Service Co. (AFPSC) and communication procedure. The State of Alaska is actively promoting exploration and development of North Slope gas and the AFPSC capacity is not intended to be a detriment to that purpose. As such LSCC will investigate expansion of the AFPSC as supply and demand increases. The pipeline design is for 4 BCF/D with 1 BCF/D for expansion to 5 BCF/D total.

2.4.1.1. Market Assessment

LSCC commits that after the first binding open season, LSCC will assess the market demand for additional pipeline capacity at least every two years through public nonbinding solicitations or similar means.

LSCC will conduct the nonbinding solicitations for potential market demand for expansion capacity via public announcement. The announcement will provide for at least 30 days prior public notice of each nonbinding solicitation of interest to all interested parties through press release, internet web sites, advertising and mail notification.

LSCC will commit to expand the project in reasonable engineering increments and on commercially reasonable terms that encourage exploration and development of gas resources. Reasonable engineering increments mean the amount of additional capacity that could be added by compression or a pipe addition similar to the original compressor size and pipe size. The AFP

is intended to have the expansion capability of 1-2 BCFD as needed and justified. The initial AFPSC will have extra compressor stations above those needed for the 4 BCFD.

Recourse Rates

The extra compressor stations would become needed as expansion is justified. The Recourse Rates would recover the cost of the compressor station, \$250 million, and any additional operating costs.

Engineering Schedule

Since extra compressor stations would be installed at the initial pipeline, the schedule to add the extra compression for expansion would be very short, primarily, time for mechanical checkout, operator hiring and training and utility operation.

LSCC will conduct promptly a binding open season for creditworthy prospective shippers to make binding commitments for expansion capacity subsequent to the nonbinding solicitation of interest.

In this binding open season LSCC will not require a prospective shipper to agree to any particular rate (other than the recourse rate) or require an existing shipper to pay any rate for a capacity expansion prior to the date that new expansion facilities go into service.

LSCC commits that after the first binding open season, LSCC will assess the market demand for additional pipeline capacity at least every two years through public nonbinding solicitations or similar means.

LSCC will conduct the nonbinding solicitations for potential market demand for expansion capacity via public announcement. The announcement will provide for at least 30 days prior public notice of each nonbinding solicitation of interest to all interested parties through press release, internet web sites, advertising and mail notification.

2.4.1.2. Expansion Terms

LSCC will promptly and diligently pursue all regulatory approvals upon the receipt of acceptable binding commitments for expansion capacity, and commit to promptly and diligently proceed to expand the project at a reasonable engineering increment sufficient to satisfy all demand for expansion capacity so long as additional revenue, if any, from existing transportation contracts on the project plus the projected revenue from binding expansion capacity commitments, cover the costs of the expansion (including fuel costs and a reasonable return on capital as authorized by FERC or the RCA as applicable).

2.4.1.3. Rolled-In Rates

LSCC commits to propose and support the recovery of Mainline capacity expansion costs, including fuel costs, through Rolled-in Rates consistent with all of the provisions of AS 43.90.130(7) of the Act. Further LSCC commits to propose and support the assignment of expansion costs to all firm billing determinants, including those related to negotiated rate contracts, and commits to propose and support rates that will bear the same percentage change to all rates consistent with AS 43.90.130(7) of the Act, including any term-differentiated rates.

2.4.1.4. General Expansion Provisions

The requirements to “promptly and diligently pursue” binding open seasons, regulatory approvals and expansions, as described above, means that LSCC shall act in a manner that is commercially reasonable in the interstate gas pipeline industry in the U.S. with respect to timing and execution of relevant actions.

A shipper is deemed Creditworthy if it satisfies the creditworthiness standards for the project's applicable tariffs. For expressions of interest and expansions undertaken prior to regulatory approval of such standards, creditworthiness shall be determined according to the standards LSCC applies in its initial binding open season.

LSCC commits to file, as part of its tariff, its determination of the reasonable engineering increment of capacity based on the design of the project prior to modifications of the facilities or operation of the pipeline (other than normal day-to-day changes in pipeline operation).

- For purposes of determining the reasonable engineering increment of capacity that can be added by the addition of pipe (commonly referred to as “looping”) LSCC will base its calculations on: (1) the addition of a full valve section based on the original pipeline Mainline valve locations; and (2) pipe diameter that would be required were a full loop of the pipeline to be undertaken.

2.5. PROJECT COST ESTIMATE

The following tables located within Section 2.5. are reproduced in Appendix A and are also located on the accompanying CD in Excel format.

2.5.1 Cost Estimate for Development Phase

2.5.1.1. Pipeline and Compression Station Cost (Development Phase).

- **Front End Engineering Design, including (but not limited to)**
 - **Route and Site Selection**
Cost: \$ 10,000,000.00
 - **Basis of Design (e.g., line sizing and throughput determination, compression station locations and horsepower)**
Cost: \$ 308,500,000.00
 - **Technology Assessments**
Cost: \$ 5,000,000.00
 - **Environmental Impact Studies and Assessments**
The \$40 million cost for EIS is already included in the Basis of Design above.
Cost: 0.00
- **Right-of-Way Determination and Negotiations**
Cost: \$ 2,000,000.00
- **Regulatory and Permitting Activities including (but not limited to).**
 - Preparation of FERC, NEB, NPA, RCA applications
 - Costs Associated with FERC, NEB, NPA, and RECA approvals
 - Preparation of applications for other permits.
The \$50 million cost for this work has already been included in Basis of Design above.
 - Cost: \$ 0.00
- **Project Management for all the work in the Development Phase**
Cost: 20,000,000.00
- **Other cost categories (if needed)**
 - Office Space
 - Rental 400,000.00

Travel	
Transportation	2,000,000.00
Computer	
Modeling	5,000,000.00
Public Relations	10,000,000.00
Legal	5,000,000.00
Insurance	1,000,000.00
Taxes	500,000.00
Office Support	500,000.00
	<hr/>
	24,400,000.00

Application should document the data and methods used to estimate:

- **Work Hours**

Engineer Hours	700,000	x	\$150.00	105,000,000.00
Engineering				
Manager	80,000	x	\$250.00	20,000,000.00
Technician Hours	1,000,000	x	\$80.00	80,000,000.00
Clerical Hours	125,000	x	\$60.00	7,500,000.00
Lawyer Hours	20,000.00	x	\$250.00	5,000,000.00
Misc. Staff Hours	10,000	x	\$100.00	1,000,000.00
EIS Engineer				
Hours	600,000	x	\$150.00	90,000,000.00
				308,500,000.00

- **Hourly Costs**

Environmental	
Engineer	\$150.00
Engineers	\$150.00
Engineering	
Manager	\$250.00
Technical	\$80.00
Clerical	\$60.00
Lawyer	\$250.00
Misc. Staff	\$100.00

Resource

- **Requirements**

This plan total cost of \$345.5 million will be funded by Sinopec through a loan agreement. It will be repaid to Sinopec once the construction loan is in place.

Total Project Cost - Development Phase **\$ 345,500,000.00**

2.5.1.2 LNG Plant Cost (Development Phase)

• Front End Engineering Design, including (but not limited to)		
o Route and Site Selection		
Cost:	\$	2,000,000.00
o Basis of Design (e.g., line sizing and throughput determination, compression station locations and horsepower)		
Cost:	\$	121,500,000.00
o Technology Assessments		
Cost:	\$	2,000,000.00
o Environmental Impact Studies and Assessments		
The \$15 million cost for this EIS is included in the Basis of Design above.		
Cost:	\$	0.00
o Right-of-Way Determination and Negotiations		
Cost:	\$	5,000,000.00
• Regulatory and Permitting Activities including (but not limited to).		
o Preparation of FERC, NEB, NPA, RCA applications		
Costs Associated with FERC, NEB, NPA, and RECA		
o approvals		
o Preparation of applications for other permits.		
Cost:	\$	65,000,000.00
• Project Management for all the work in the Development Phase		
Cost:		20,000,000.00
• Other cost categories (if needed)		
Office space rental (paid by Pipeline Cost)		0.00
Travel, transportation		2,000,000.00
Computer simulation and modeling		5,000,000.00
Public Relations		2,000,000.00
Legal (For EIS Application)		5,000,000.00
Insurance		1,000,000.00
Tax		0.00
Office Support		200,000.00
		<hr/>
		15,200,000.00

Application should document the data and methods used to estimate:

- Work Hours

Engineer	500,000	x	\$150.00	75,000,000.00
Engineering Manager	40,000	x	\$250.00	10,000,000.00
Technician	100,000	x	\$80.00	8,000,000.00
Clerical	125,000	x	\$60.00	7,500,000.00
Lawyer	20,000.00	x	\$250.00	5,000,000.00
Misc. Staff	10,000	x	\$100.00	1,000,000.00
EIS Engineer	100,000	x	\$150.00	15,000,000.00
				<u>121,500,000.00</u>

- Hourly Costs

Engineer	\$150.00
EIS Engineer	\$150.00
Engineering Manager	\$250.00
Technical	\$80.00
Clerical	\$60.00
Lawyer	\$250.00
Misc. Staff	\$100.00

Resource

- Requirements

This development phase cost of \$230.7 million will be funded by Sinopec through a loan agreement. It will be replaced once the construction loan is in place.

Total Cost: \$ 230,700,000.00

2.5.1.3 NGL Plant Cost (Development Phase)

• Front End Engineering Design, including (but not limited to)		
o	Route and Site Selection	
	Cost:	\$ 2,000,000.00
o	Basis of Design (e.g., line sizing & throughput, compression station loc. & hp)	
	Cost:	\$ 46,250,000.00
o	Technology Assessments	
	Cost:	\$ 1,000,000.00
o	Environmental Impact Studies and Assessments	
	This \$1.2 million cost is included in the Basis of Design above.	
	Cost:	\$ 0.00
o	Right-of-Way Determination and Negotiations	
	Cost:	\$ 2,000,000.00
• Regulatory and Permitting Activities including (but not limited to).		
o	Preparation of FERC, NEB, NPA, RCA applications	
o	Costs Associated with FERC, NEB, NPA, and RECA approvals	
o	Preparation of applications for other permits.	
	Cost:	\$ 15,000,000.00
• Project Management for all the work in the Development Phase		
	Cost:	\$ 5,000,000.00
• Other cost categories (if needed)		
	Office Space (Paid by Pipeline Cost)	0.00
	Travel,	
	Transportation	2,000,000.00
	Computer	
	Simulation	5,000,000.00
	Legal (for EIS application)	5,000,000.00
	Insurance	1,000,000.00
	Tax	0.00
	Office Support	200,000.00
	Cost:	\$ 13,200,000.00

Application should document the data and methods used to estimate:

- **Work Hours**

Engineer	200,000	x	\$150.00	30,000,000.00
Engineering Manager	20,000	x	\$250.00	5,000,000.00
Technician	100,000	x	\$80.00	8,000,000.00
EIS Engineer	8,000	x	\$150.00	1,200,000.00
Clerical	10,000	x	\$60.00	600,000.00
Miscellaneous Staff	2,000	x	\$100.00	200,000.00
Lawyer	5,000	x	\$250.00	1,250,000.00
				<hr/> 46,250,000.00

- **Hourly Costs**

Engineer	\$150.00
EIS Engineer	\$150.00
Engineering Manager	\$250.00
Technician	\$80.00
Clerical	\$60.00
Miscellaneous Staff	\$100.00
Lawyers	\$250.00

- **Resource Requirements**

This development phase will cost \$84.45 million and will be funded by Sinopec through a loan and will be repaid as soon as the construction loan is obtained.

Total Cost: \$ **84,450,000.00**

2.5.1.4 Marine Terminal Cost (Development Phase)

• Front End Engineering Design, including (but not limited to)			
o	Route and Site Selection		
	Cost:	\$	2,000,000.00
o	Basis of Design (e.g., line sizing and throughput determination, compression station locations and horsepower)		
	Cost:	\$	52,400,000.00
o	Technology Assessments		
	Cost:	\$	2,000,000.00
o	Environmental Impact Studies and Assessments		
	The \$15 million cost for this EIS is included in the Basis of Design above.		
	Cost:	\$	0.00
o	Right-of-Way Determination and Negotiations		
	Cost:	\$	2,000,000.00
• Regulatory and Permitting Activities including (but not limited to).			
o	Preparation of FERC, NEB, NPA, RCA applications		
o	Costs Associated with FERC, NEB, NPA, and RECA approvals		
o	Preparation of applications for other permits.		
	Cost:	\$	30,000,000.00
• Project Management for all the work in the Development Phase			
	Cost:	\$	22,000,000.00
• Other cost categories (if needed)			
	Office		0.00
	Computer		
	Simulation		5,000,000.00
	Travel		2,000,000.00
	Public Relations		1,000,000.00
	Cost	\$	8,000,000.00

Application should document the data and methods used to estimate:

• Work Hours			
Marine Engineer	100,000.00	x	\$150.00 15,000,000.00

Engineer	40,000	x	\$150.00	6,000,000.00
Engineering Manager	10,000	x	\$250.00	2,500,000.00
Technician	100,000	x	\$80.00	8,000,000.00
EIS Engineer	100,000	x	\$150.00	15,000,000.00
Clerical	40,000	x	\$60.00	2,400,000.00
Miscellaneous Staff	10,000	x	\$100.00	1,000,000.00
Lawyer	10,000	x	\$250.00	2,500,000.00
				<hr/>
				52,400,000.00

- **Hourly Costs**

Marine Engineer	\$150.00
Engineer	\$150.00
EIS Engineer	\$150.00
Engineering Manager	\$250.00
Technician	\$80.00
Clerical	\$60.00
Miscellaneous Staff	\$100.00

- **Resource Requirements**

The cost of this work is \$118.4 million, which will be funded by Sinopec in a loan and will be repaid as soon as the construction loan is in place.

Total Cost: **\$ 118,400,000.00**

2.5.1.5 LNG Shipping, Alaska LNG Shipping Fleet

There will be no cost associated in the development phase.

2.5.2 Cost Estimate for Execution Phase

2.5.2.1. Pipeline and Compression Station Cost (Execution Phase)

• Estimated costs for Detailed Engineering and Early Procurement activities that occur before the Execution Phase begins will be included in the Project Execution Cost Estimate.	
• Detailed Engineering, Procurement and Project Management services by contractors:	
Cost:	\$ 422,252,000.00
• Direct Materials (e.g., line pipe, valves, engineering equipment such as compressors and process equipment, electrical and instrumentation and other materials such as structural steel, concrete, process piping, etc.)	
Cost:	\$ 8,340,000,000.00
• Construction Costs (e.g., management, supervision, construction equipment, direct labor, and temporary construction, indirect field labor and field overhead costs).	
Cost:	\$ 8,200,000,000.00
• Right-of-Way and Land Acquisition.	
Cost:	\$ 100,000,000.00
• Engineered equipment and material quantities and costs.	
o Costs related to Engineering Design	
Office Space	
Rental	\$1,008,000.00
Travel, Transportation	\$10,000,000.00
Computer Simulation and Modeling	\$15,000,000.00
P.R.	\$30,000,000.00
Legal	\$11,670,000.00
Insurance	\$3,700,000.00
Tax	\$3,000,000.00
Office Support	\$2,000,000.00
Eng Support	\$2,000,000.00
Washington D.C. Lawyer	\$50,000,000.00
	<hr/>
	\$128,378,000.00
Total Cost	\$ 17,190,630,000.00

Applicant should document the data and methods used to estimate:

- **Work Hours**

Engineer	1,000,000	x	\$150.00	\$150,000,000.00
Engineering Manager	200,000	x	\$250.00	\$50,000,000.00
Technician	500,000	x	\$80.00	\$40,000,000.00
Clerical	50,000	x	\$60.00	\$3,000,000.00
Lawyer	47,000	x	\$250.00	\$11,750,000.00
Misc. Staff	25,000	x	\$100.00	\$2,500,000.00
EIS Engineer	100,000	x	\$150.00	\$15,000,000.00
Const. Project Mgmt. Washington DC	500,000	x	\$200.00	\$100,000,000.00
Lawyer	125,000	x	\$400.00	<u>\$50,000,000.00</u>
				422,250,000.00

- **Hourly costs for engineering, project management and construction labor.**

Engineer	\$150.00	Hourly
EIS Engineer	\$150.00	Hourly
Engineering Manager	\$250.00	Hourly
Technical	\$80.00	Hourly
Clerical	\$60.00	Hourly
Lawyer	\$250.00	Hourly
Misc. Staff	\$100.00	Hourly
Const. Project Mgmt. Washington DC	\$200.00	Hourly
Lawyer	\$400.00	Hourly
Non-Skilled Const. Labor	\$65.00	Hourly
Skilled Const. Labor	\$85.00	Hourly

- **Hourly Costs**

Environmental		
Engineer	\$150.00	Hourly
Engineers	\$150.00	Hourly
Engineering Manager	\$250.00	Hourly
Technical	\$80.00	Hourly
Clerical	\$60.00	Hourly
Lawyer	\$250.00	Hourly
Misc. Staff	\$100.00	Hourly

- **Resource Requirements**

This plan total cost of \$17.19 billion will be funded by US Government guaranteed bonds, and state and private funding. The engineering service of \$422+ million will be funded by Sinopec through a loan agreement which will be repaid to Sinopec once the construction loan is in place.

2.5.2.2 Cost Estimate for LNG Plants (Execution Phase)

- **Estimated costs for Detailed Engineering and Early Procurement activities that occur before the Execution Phase begins will be included in the Project Execution Cost Estimate.**
- **Detailed Engineering, Procurement and Project Management services by contractors:**
Cost: \$ 327,300,000.00
- **Direct Materials (e.g., line pipe, valves, engineering equipment such as compressors and process equipment, electrical and instrumentation and other materials such as structural steel, concrete, process piping, etc.)**
Cost: \$ 7,510,000,000.00
- **Construction Costs (e.g., management, supervision, construction equipment, direct labor, and temporary construction, indirect field labor and field overhead costs).**
Cost: \$ 2,400,000,000.00
- **Right-of-Way and Land Acquisition.**
Cost: \$ 100,000,000.00
- **Engineered equipment and material quantities and costs.**
 - **Costs Related to Engineering Design**

Office Space	
Rental	\$1,080,000.00
Travel, Transportation	\$5,000,000.00
Computer Simulation and Modeling	\$15,000,000.00
Public	
Relations	\$30,000,000.00
Legal	\$11,670,000.00
Insurance	\$1,500,000.00
Tax	\$1,500,000.00
Office	
Supply	\$2,000,000.00
Engineer	
Equipment	\$2,000,000.00
Washington D.C. Lawyer	\$30,000,000.00
	<hr/>
	\$ 99,750,000.00

Applicant should document the data and methods used to estimate:

- **Work Hours**

Engineer	1,000,000	x	\$150.00	\$150,000,000.00
Engineering Manager	150,000	x	\$250.00	\$37,500,000.00
Technician	200,000	x	\$80.00	\$16,000,000.00
Clerical	30,000	x	\$60.00	\$1,800,000.00
Lawyer	20,000	x	\$250.00	\$5,000,000.00
Misc. Staff	20,000	x	\$100.00	\$2,000,000.00
EIS Engineer	100,000	x	\$150.00	\$15,000,000.00
Const. Project Mgmt.	500,000	x	\$200.00	\$100,000,000.00
				<hr/>
				327,300,000.00

- **Hourly costs for engineering, project management and construction labor.**

Engineer	\$150.00	Hourly
EIS Engineer	\$150.00	Hourly
Engineering Manager	\$250.00	Hourly
Technical	\$80.00	Hourly
Clerical	\$60.00	Hourly
Lawyer	\$250.00	Hourly
Misc. Staff	\$100.00	Hourly
Const. Project Mgr.	\$200.00	Hourly
Non-Skilled Const. Labor	\$65.00	Hourly
Skilled Const. Labor	\$85.00	Hourly
Heavy Equip. Operator	\$90.00	Hourly

- **Engineering, project management and construction resource requirements.**

The total resource is \$10.437 billion million which will come from U.S. Government guaranteed bonds and state and private funding. For the \$327.3 million engineering fee, a loan from Sinopec will providing the funding which will later be repaid to Sinopec once the construction loan is in place.

Total Cost:

\$ 10,437,050,000.00

2.5.2.3 Cost Estimate for NGL Plants (Execution Phase)

- **Estimated costs for Detailed Engineering and Early Procurement activities that occur before the Execution Phase begins will be included in the Project Execution Cost Estimate.**
- **Detailed Engineering, Procurement and Project Management services by contractors:**
Detailed engineering costs for this phase is \$128,900,000.00
Cost: \$ 128,900,000.00
- **Direct Materials (e.g., line pipe, valves, engineering equipment such as compressors and process equipment, electrical and instrumentation and other materials such as structural steel, concrete, process piping, etc.)**
NGL plant will be built in China in modules and shipped to the site for reassembly.
Costs for materials are reflected in Construction Costs below.
- **Construction Costs (e.g., management, supervision, construction equipment, direct labor, and temporary construction, indirect field labor and field overhead costs).**
Cost: \$ 2,301,000,000.00
- **Right-of-Way and Land Acquisition.**
Cost: \$50,000,000.00

Applicant should document the data and methods used to estimate:

- **Work Hours**

Engineer	400,000	x	\$150.00	\$60,000,000.00
Engineering Manager	10,000	x	\$250.00	\$2,500,000.00
Technician	100,000	x	\$80.00	\$8,000,000.00
Clerical	40,000	x	\$60.00	\$2,400,000.00
Misc. Staff	10,000	x	\$100.00	\$1,000,000.00
Const. Project Manager	200,000	x	\$200.00	\$40,000,000.00
EIS Engineer	100,000	x	\$150.00	\$15,000,000.00
			\$	128,900,000.00
- **Hourly costs for engineering, project management and construction labor.**

Engineer	\$150.00	Hourly
EIS Engineer	\$150.00	Hourly
Engineering Manager	\$250.00	Hourly
Technical	\$80.00	Hourly

Clerical	\$60.00	Hourly
Lawyer	\$250.00	Hourly
Misc. Staff	\$100.00	Hourly
Construction Project Mgr.	\$200.00	Hourly
Non-Skilled Construction Labor	\$65.00	Hourly
Skilled Construction Labor	\$85.00	Hourly
Heavy Equipment Operator	\$90.00	Hourly

- **Engineered equipment and material quantities and costs.**

Office Space	
Rental	\$0.00
Travel	\$2,000,000.00
Computer Simulation and Modeling	\$2,000,000.00
Public	
Relations	\$10,200,000.00
Legal	\$5,000,000.00
Insurance	\$1,500,000.00
Office Supply	\$500,000.00
Engineer	
Equipment	\$2,000,000.00
Washington D.C. Lawyer	\$10,000,000.00
	<hr/>
	\$ 33,200,000.00

- **Engineering, project management and construction resource requirements.**

The total resources for this project is \$2,479,900,000.00 which will come from U.S. Government guaranteed bonds and state and private funding. The \$128.9 million engineering FEED fee will be funded by Sinopec through a loan agreement, and this money will be repaid to Sinopec as soon as the construction funding is in place.

Total Cost: **\$ 2,479,900,000.00**

2.5.2.4 - Cost Estimate for Marine Terminal (Execution Phase)

- **Estimated costs for Detailed Engineering and Early Procurement activities that occur before the Execution Phase begins will be included in the Project Execution Estimate.**
 - **Detailed Engineering, Procurement and Project Management services by contractors:**
Cost: \$ 119,600,000.00
 - **Direct Materials (e.g., line pipe, valves, engineering equipment such as compressors and process equipment, electrical and instrumentation and other materials such as structural steel, concrete, process piping, etc.)**
Marine terminal includes a 20 million gallon storage tank for LNG and NGL liquids.
Cost: \$ 860,000,000.00
 - **Construction Costs (e.g., management, supervision, construction equipment, direct labor, and temporary construction, indirect field labor and field overhead costs).**
Construction cost of the marine terminal will be \$1.682 billion.
Cost: \$ 1,682,000,000.00
 - **Environmental Impact Statement:**
The \$30 million cost for EIS is already included in Detailed Engineering above.
Cost: \$ 0.00
 - **Right-of-Way and Land Acquisition.**
Cost: \$ 20,000,000.00
 - **Other cost categories (if needed).**
Computer simulation model cost: \$5,000,000.00
- Total Cost \$ 2,686,600,000.00

Applicant should document the data and methods used to estimate:

- **Work Hours**

Engineer	200,000	x	\$150.00	\$30,000,000.00
Engineering Manager	50,000	x	\$250.00	\$12,500,000.00
Marine Engineer	100,000	x	\$150.00	\$15,000,000.00
Technician	100,000	x	\$80.00	\$8,000,000.00
Clerical	10,000	x	\$60.00	\$600,000.00

Lawyer	10,000	x	\$250.00	\$2,500,000.00
Misc. Staff	10,000	x	\$100.00	\$1,000,000.00
EIS Engineer	200,000	x	\$150.00	\$30,000,000.00
Const. Project Mgmt.	100,000	x	\$200.00	<u>\$20,000,000.00</u>
			\$	119,600,000.00

- **Hourly costs for engineering, project management and construction labor.**

Engineer	\$150.00	Hourly
EIS Engineer	\$150.00	Hourly
Eng. Manager	\$250.00	Hourly
Marine Engineer	\$150.00	Hourly
Technical	\$80.00	Hourly
Clerical	\$60.00	Hourly
Const. Proj. Mgr.	\$200.00	Hourly
Non-Skilled		
Const Labor	\$65.00	Hourly
Skilled Const.		
Labor	\$85.00	Hourly
Heavy Equip.		
Operator	\$90.00	Hourly

- **Engineering, project management and construction resource requirements.**

The total resource is \$2,686,600,000.00 which will be funded by U.S. Government guaranteed bonds, state and private funding. For the FEED, Sinopec will provide the funding through a loan agreement to fund and the \$119.6 million engineering cost which will be repaid as soon as the construction loan is in place.

2.5.2.5 - Cost Estimate for LNG Shipping Fleet (Execution Phase)

For the LNG shipping fleet, once the construction loan is in place, Sinopec will place an order with the ship building industry for a long term lease for the following:

1. 20 LNG ships with 145,000 to 180,000 M³ capacity @ \$300 m ea. (non-Jones Act ships) to be ordered by Sinopec, the LNG buyer.
2. 4 LNG ships with a 75,000 M³ capacity at \$250 million each (Jones Act ships) to be ordered from Alaskan LNG buyers.

Non-Jones Acts				
Ships	20	x	300,000,000.00	\$6,000,000,000.00
Jones Act Ships	4	x	250,000,000.00	<u>\$1,000,000,000.00</u>
Total				\$7,000,000,000.00

LSCC will inform the Alaskan LNG buyer that they should order to lease the 4 LNG ships as soon as possible. LSCC and Sinopec are not responsible if Alaskan LNG buyers fail to obtain a lease from shipping companies.

The cost of the 20 LNG ships, either by leasing from a shipping company or built by a China ship yard and leased to Sinopec for shipping LNG to China, is not included in the in the pipeline project.

2.6. PROJECT SCHEDULE

2.6.1. Schedule for Development Phase

PROJECT SCHEDULE					
2.6.1. Schedule For Development Phase	2008	2009	2010	2011	2012
1 License Issues					
2 Open Season process					
3 Regulatory Application Preparation					
4 Regulatory Approval					
5 Front End Engineering Development Phase					
5.1 Permits					
5.2 EIS					
5.3 Pipeline Design					
5.4 GTP Design (by Producer)					
5.5 NGL Plant Design					
5.6 LGN Plant Design					
5.7 Marine Terminal Design					
5.8 LNG Ships Re-gasification Plants					

2.6.2. Schedule for Execution Phase

PROJECT SCHEDULE									
2.6.2. Schedule For Execution Phase	2012	2013	2014	2015	2016	2017	2018	2019	2020
1 Detail Engineering									
1.1 Pipeline									
1.2 GTP (By Producers)									
1.3 NGL Plant									
1.4 LNG Plant									
1.5 Marine Facility									
1.6 LNG Ship & Re-gasification Plant									
2 Material & Equipment Purchasing									
2.1 Order Steel Pipe									
2.2 LNG/NGL Plant									
2.3 Marine Terminal Storage Tanks									
2.4 LNG Ships									
3 Material & Equipment Arrival									
3.1 Steel Pipe									
3.2 LNG/NGL Plants									
3.3 Marine Facility Storage Tanks									
3.4 LNG Ships									
3.5 Compressor									
4 Pre-Construction									
4.1 Site Work									
4.2 Staging of Material									
5 Construction									
5.1 Pipeline									
5.2 Compressor									
5.3 GTP (By Producers)									
5.4 NGL/LNG Plant									
5.5 Marine Facility									
5.6 LNG Ships									
6 Commissioning									
6.1 Pipeline									
6.2 Compressor									
6.3 GTP									
6.4 NGL/LNG Plant									
6.5 Marine Facility									
6.6 LNG Ships									
7 Delivery									
7.1 Gas Delivery									
7.2 LNG Delivery									

2.7 RISK ASSESSMENT AND MITIGATION

2.7.1 Risk Assessment and mitigation (other than pipeline)

LSCC will submit a risk assessment of their proposed base project. As assessment of project risks during the Development and Execution Phases shall include the following:

Development Phase Risk Assessment and Mitigation

1. Open Season and firm transportation commitments

A. Identifying the key risk factors

- a. Shippers refuse to submit a nomination and commitment.
- b. Not enough gas to fill the 4 BCFD requirement to pay for the investment.
- c. Not enough buyers or buyers back out.
- d. North Slope Natural Gas reserve is not proven to have 30 years supply at 4.5 BCF/D.
- e. Shippers refuse to invest in the Gas Treatment plant.
- f. Permits on the pipeline and LNG facility were denied, and/or require more time and money to revise and re-submit.
- g. Cannot build 24 LNG ships at one time.

B. Assessing the potential impact of open season and firm transportation

comments on

- a. Economic and technical viability
- b. The 4 BCFD of LNG is the minimum shipping of LNG before LSCC/Sinopec will invest and build the pipeline for which the shippers must first commit. Technical viability is excellent. No foreseeable technical problems are anticipated. The main terminal and LNG plants are proposed to be built on solid bedrock.
- c. The design engineering plan cannot have error and omissions.
- d. The plan and specs will be drawn up by design engineers. Risks would include permits not passing regulations tests.
- e. Schedule cannot be pushed back.
- f. Schedule could suffer delays if LNG ships and over 1 million tons of steel should not be available on schedule.
- g. Cost Estimate must be accurate.
- h. Steel prices may double or triple as well as the LNG tankers.

- C. Risk mitigation strategies or contingency plans to be used and identifying which of these (if any) have been incorporated into the proposed project

Development and Execution Plans, Schedule, and Cost Estimate.

- a. Detailed plans are to be reviewed by Q.C. and Q.A. teams to make sure the plans, schedule, and cost estimates are mistake free. Thorough evaluation of errors and omissions will result in less chance for change orders and the resulting schedule delays and cost over-runs.
- b. Order the steel pipe and LNG ships on time and make sure it is ahead of schedule on delivery to site for installation. Monitor progress with the ship yards to verify the ship building schedule is adhered or face heavy penalties.
- c. Cost Estimator must constantly check and double check for any change, such as steel price, labor cost, material and equipment cost, and compressor. Costs must be tied-down to avoid cost over-runs. It may require the suppliers to post bonds to guarantee prices will not be subject to increases.

North Slope GTP Risk Assessment and Mitigation

1. Identifying the key risk factors
 - A. The shippers refuse to invest to build the GTP. This could result is a big issue to be resolved.
 - B. The shipper must deliver clean gas to the gas pipeline that meets the gas specifications so they will not have to build the GTP.
2. Assessing the potential impact of each key risk factor on the proposed projects.
 1. The cost of materials and equipment (such as steel pipe and compressors) will increase the overall cost.
 2. The shippers refuse to build the GTP thereby causing a delay in the project schedule.
 3. A delay in the delivery of steel pipe, compressor, and/or LNG ships would also delay the schedule.

4. The change in the U.S. Dollar value compared to other currencies, fuel and oil costs, labor costs, material and equipment costs could result in cost overruns and potential schedule delays.
5. The permitting process could take longer than anticipated and could result in project delays.

3. Economic and Technical viability

The project is viable if North Slope shippers can guarantee 4BCFD gas to Valdez and the gas can be converted to LNG. Sinopec will buy the LNG and agree to build the pipeline with no technical difficulties in the foreseeable future.

4. Schedule

Schedules of material equipment, LNG ships must be on time. Any delay will cost millions of dollars in cost overruns.

5. Cost Estimate

Cost estimates must be updated every week and sometimes every day on steel pipe cost changes.

6. The mitigation strategies include the supplier of material and equipment must sign a contract with heavy penalties for delay. Such as LNG ship builders, steel pipe suppliers, and compressor and liquefaction equipment suppliers.
7. The plan and specifications must be error and omission free and thoroughly reviewed by QCQA teams.
8. Schedule must be tracked and updated with visits to suppliers, ship yards, steel mills, compressor manufacturers to monitor the manufacturing progress.

9. Develop cost tracking to note any sudden change in steel price, material and equipment price as well as labor rate changes.

Permits for LNG export, shipping, Import Risk Assessment and Mitigation

1. Identifying Key Risk Factors

U.S. government deny LNG export permit for Chinese Government and/ or impose a high duty for LNG import.

Mitigation can be done by revising the application and use the Washington D.C. legal team to reverse the ruling. In China, the import duty, an appeal for lower tax may be granted due to the need of LNG natural shortage.

2. Assessing the potential impact of each key risk factor on the proposed project's economic and technical viability.

- a. Plan

With proper planning and a thorough review process the planning phase presents a very light risk factor.

- b. Schedule

Due to numerous factors beyond the control of LSCC, the schedule poses a significant risk factor.

- c. Cost Estimate

The cost estimating poses a large risk factor, especially if shippers decide not to contract to ship the fuel.

3. The risk mitigation strategies or contingency plans to be used and identifying which of these (if any) have been incorporated into the proposed project Development and Execution Plans, Schedule, and Cost Estimate are as follows.

- a. For permit application, the contingency plan would be revised and resubmitted.
- b. For shipper refusal to build GTP, we can build it for them.
- c. For shipper refusal to ship gas we may ask the State of Alaska for help.
- d. For cost of material and/or cost and schedule overruns we may encourage the suppliers to stick to the schedule.\

Availability and Costs of Labor Resources and Construction Equipment

1. Key Risk Factors include

Not enough skill and non skilled labor for this project. Equipment can be rented or purchased by sub-contractors in advance, and most contractors own their own heavy equipment.

2. Assessing the potential impact of each key risk factor on the proposed project's economic and technical viability.

a. Plan

Very little

b. Schedule

Very big problem if the schedule is pushed back resulting in cost overruns.

c. Cost Estimate

Very big problem is the costs of material or equipment increases. Depending on the extent of the cost increase, this could result in excessive cost overruns.

3. The risk mitigation strategies or contingency plans to be used are:

- a. For plans, a good set of plans can be obtained through the utilization of the QC & QA review team. They could advise on error and omissions that would otherwise have resulted in change orders and more.
- b. Schedule must be met by constant monitoring, visiting the factories, and through the use of a project management team to keep the contractor in line, thereby avoiding heavy penalties for delays.
- c. Cost Estimates will be checked daily for sudden changes in the price of material and equipment.

Rights of Way Acquisition and Environment Requirements

1. Identifying Key Risk factors

APSC (Alaska Pipeline Services Co.) owns the Right of way on the North Slope to Valdez pipeline corridor. They also own the land outside the corridor in the oil terminal and Anderson Bay. An agreement must be obtained prior to any construction.

Negotiations with AHTNA, INC, other Native Corp for Right of Way to have the pipeline route through their land.

Obtain other Right of Ways, land leases, etc. from the State of Alaska.

2. Assessing the potential impact of each key risk factor on the proposed project's economic and technical viability.

- a. The right of way with APSC is a key issue or there will be no project.

- b. Plan

The gas line (buried) must be placed at safe distance from the oil line as required.

- c. Schedule

The construction schedule must not contradict APSC's schedule and it may need their review and approval

d. Cost Estimate

A high risk. Steel prices can double in one years' time.

3. The risk mitigation strategies or contingency plans are;

LSCC must be patient and respectful when negotiating with the APSC because they are the owners of the North Slope Gas.

Federal Loan Guarantee and Debt Financing

1. Identifying key Risk Factors

- a. The U.S. Government could negate on the \$18 billion dollar loan guarantee promise. Without this low interest financing, the debt financing may be doubled. This project needs an 80% U.S. loan guarantee.
- b. Secondary financing is also needed to finance the difference of the U.S. Government guaranteed loan and the difference of actual construction costs and those interest rates are much higher.
- c. The Chinese government does not approve Sinopec investment of this project.

2. Assessing the potential impact of each key risk factor on the proposed project's economic and technical viability

- a. If the U.S. Government refuses to back up this project with a guaranteed loan, there will be no project.
- b. Plan
Not affected
- c. Schedule

Not affected

d. Cost Estimate

Affected but there will not be anything that can be done about it as there will be no project.

3. The risk mitigation strategies or contingency plans to be used are:

We can spend money to hire lobbyists to convince the U.S. Government to back this project. The Alaskan Government can issue State Guarantee bonds to finance this project or the state can ask the Alaska Federal Senators and congressman to lobby the U.S. Government.

Certificate Authority from the applicable jurisdictional agencies (e.g., NPA, NEB, FERC, RCA, etc.)

1. Identifying Key Risk Factors

These agencies have certified all the permit applicants from the Yukon Pacific Corp from the North Slope to Valdez a few years ago. They may deny it for many unknown reasons to use it now. They may need a completely new application.

2. Assessing the potential impact of each key risk factor on the proposed project's economic and technical viability.

a. Plan

Not much impact

b. Schedule

This could result in a huge impact if LSCC has to start the permit application process from the beginning again

c. Cost Estimate

Costs could increase significantly if a completely new application is needed.

3. The risk mitigation strategies or contingency plans to be used are;

If LSCC can reuse the Yukon Pacific permit it can proceed. If it only needs to update the EIS, LSCC can update it with the EIS engineer. If costs are reasonable LSCC may hire an Environment engineering firm to do it all over again.

2.7.2 Risk Assessment and Mitigation on Pipeline

The pipeline failure is outlined in the following categories along with the mitigation that can prevent the failure.

1. Pipe Corrosion, which is time dependent and can be checked regularly and cleaned periodically using a pig. Necessary prevention to counter the risk of the problem
2. Pipe cracking, usually caused by material degradation is also a time dependent failure rate of pipe cracking can be prevented by a good Quality Control and Quality Assurance that the steel pipe meets all the steel specifications and random tests in lab controlled settings to check the result. In laying the pipe on the ground it is also important so it can absorb part of the load from soil movement. The weld joint of the pipes also can pose cracking or leaking problems unless a good QA and QC team checks all the weld joints with x-ray and sonic tests.
3. The risk of third party damage such as truck running into the above ground section of the pipe or a drunken person shooting the pipeline with rifles or a terrorist attack by placing explosive to blow up the pipeline and the compressor station. These kinds of risks can be prevented by a good safety and security force to ensure no

unauthorized persons accessing the corridor of the gas line and the compression station. These concerns can be shared with the Alyeska Pipeline Service Co.

4. Earth movements, earthquakes, permafrost and frozen ground usually can be avoided by a proper design and good engineering study. TAPS has tons of experience we can use in our pipeline design and the construction must follow the engineering design. A good QC and QA team will design phase and construction phase will mitigate and reduce the risk of this kind that would cause the pipeline failure.
5. Labor risk management can be mitigated by the contractor signing a “No Strike” clause with the union.
6. As far as risk of financing, the pipeline construction risks are very big. The investors will invest billions in the developments phase without guarantee of payback, which can be lost if the money for construction is not available. The investors in the pipeline, LNG terminal, the construction of the LNG ships to ship the LNG to market will not get paid until the project construction is completed, the gas has started flowing through the pipeline and the LNG starts producing the first tons of LNG for market.

The risks can be shared by Government investment, guarantee the construction loan by issuing low interest bonds. Both the Federal and the State must be involved to finance the construction money or the project will not happen.

2.8. FINANCAL PLAN

2.8.1. Description of Applicant and Participating Entities

Little Susitna Construction Company, Inc.

- Legal Structure

Little Susitna Construction Company, Inc. has been incorporated as an Alaskan corporation since 1984. The business was started in 1980 under the name of the Little Susitna Company.

- Description of Formation

The first construction work was for an automatic sprinkler system for the Anchorage Federal Building Module G as a sub-contractor to Hoffman Construction in 1980, and the first architectural/engineering job was electrical design for Soldotna Sport Arena and Hockey Rink as an electrical sub-consultant to Ellerbe Alaska of Fairbanks, AK in 1980. Dominic S.F. Lee is the founder and owner of the company. Stock was issued to Dominic S.F. Lee, P.E.

- Articles of Incorporation or Bylaws for Little Susitna Construction Company, Inc.
See Appendix D.

- Summary of History

LSCC has performed architectural/engineering/construction services for over 28 years in Alaska. See Appendix E.

- Résumés

LSCC has provided résumés of key personnel. See Appendix F.

China Petroleum and Chemical Corporation (Sinopec)

- Legal Structure

China Petroleum and Chemical Corporation is a People's Republic of China publicly traded company. Its stock is traded in Hong Kong, Shanghai, and the U.S.A.

- Description of Formation

The company was formed as a spin-off from China Petroleum in 2001.

- Articles of Incorporation or Bylaws - None

- Summary of History

In 2001, when China oil giant, China Petroleum, became too large, it was split into two companies, PetroChina (the world's number one oil corporation) and Sinopec (the world's 17th largest corporation). Sinopec business includes oil and gas exploration, oil and gas production from its 5 oil fields and 20 gas fields in China, over 30,000 gas stations, building and ownership of oil and gas pipelines, engineering and construction of LNG, NGL, and GP plants and related facilities. Sinopec has an engineering design institute for research and development, oil field and gas field operations, oil and gas pipeline design and construction, and an international division for projects overseas. Sinopec has over 500 engineers and 1000 technicians who work on this project. Currently Sinopec is building a 2,200 Kilometer 36" dia. Gas pipeline from Sichuan to Shanghai. It will be completed by 2009. The gas pipeline was designed, built and will be operated by Sinopec. See Appendix H.

LSCC Teaming Agreement

- Original Letters or contracts

LSCC and Sinopec ZPEB signed a teaming agreement on Oct. 24, 2007.

See Appendix C.

Sinopec signed a letter of intent to purchase 4 BCF/D of LNG product from this project if LSCC/Sinopec is selected to receive the gas pipeline license. LSCC has a letter prepared, but not signed, regarding Sinopec's request from the People's Republic of China's permission to invest money for the partial construction cost of this project.

2.8.2. Demonstration of Financial Resources

- Appropriate Documentation

Sinopec is one of the world's largest oil giants. Its annual revenue is over \$1000 billion Chinese RMB, which is about \$125 billion U.S. dollars. LSCC is a small business enterprise which has annual revenue of about \$2 million U.S. dollars.

- Electronic copies of annual reports and 10Ks from past 5 years

Enclosed with this application are Sinopec's 5-year Annual Report and 6K report. (6K is the type of report used by a foreign company to report to the SEC.) See Appendix J.

LSCC does not have an annual report or 10K, but we enclose with LSCC's 5-year CPA prepared Financial Statement. See appendix K.

- Detailed Description of Financial Structure

Almost all the funds will come from Sinopec once we are selected to receive the license.

- Expected changes in capitalization

This project has a minimum of 10 years from development to construction. The majority of capital income, 80%, is from the U.S. Government guaranteed revenue bonds and the rest will come from Sinopec. It will change from year to year depending on the need and the total cost of the project.

- Projection of capitalization plan over 30 years of operation

We will use 30 years to retire the debt service for the proposal only. The actual will be 20 years.

- Description of merits of and Applicant's ability to implement capitalization plan

If LSCC/Sinopec is selected, we have no problem with implementing the capitalization plan. Sinopec's annual revenue is U.S. \$125 billion. Its banker, Bank of China has \$1,300 billion (U.S.) in reserves.

- Expected source of debt and equity funds associated with capitalization plan as well as a description of the reasonableness of applicant's financial structure.

The majority of the project cost, 70% to 80% comes from the U.S. Government guarantee. The rest of the 20% to 30% will be raised by Sinopec issued Revenue Bonds to the public.

- Capitalization plan for proposed project alternatives.

The potential alternative is to create a pipeline company, "Alaskans First" Gas Pipeline Service Co. and do an IPO to raise the money needed for the portion of the project not guaranteed by the U.S. Government or the State of Alaska.

- Unique Benefit to State of Alaska

The teaming relationship between LSCC and Sinopec can potentially benefit Alaska and the producers by helping to finance the project if LSCC is selected as licensee. It also provides jobs and billions of dollars for producers and Federal Government.

- How Applicant plans to utilize federal guarantee instruments

LSCC plans to use the Federal loan guarantee of about 18 billion or more in the project, and the other 20% to 30% loan comes from a Sinopec issuance of Revenue Bonds or the State of a Alaska guarantee bond.

2.9 PERFORMANCE HISTORY AND PROJECT CAPABILITY

- History of Compliance

LSCC has a 28-year history of compliance with safety, health, and environmental requirement. With the exception of a few very minor accidents, LSCC workers have worked all over Alaska in construction and engineering jobs without major injury or hospitalization. All our workers have state fitness cards. LSCC has worked successfully and without incident on a number of projects that required a high degree of environmental risk such as the removal of PCBs in the Juneau Federal Building; contaminated soil remediation at Fort Richardson; and asbestos removal at Bethel Kuskokwim School District Regional Office Building. LSCC met U.S. EPA, State DEC regulations and complied with regulations for transporting PCBs across the ocean to Oregon EPA approved toxic dump site.

- Ability to operate within an associated budget

95% of LSCC projects in the last 28 years performed in Alaska and the Lower 48 made a profit from 2% to 60%, because we have good control of cost, budget, time, and labor issues.

- Record of performance and integrity and good business ethics

LSCC has a good history record of performance on projects and received citations from owners such as the U.S. Navy, the U.S. Army, the U.S. Air Force, the U.S. Army National Guard, the U.S. Coast Guard, the State of Alaska, Municipality of Anchorage, private clients and the U.S. Army Corps of Engineers.

2.9.1. History of Compliance with Safety, Health and Environmental Requirements

Submit documentation

- Construction Safety (Juneau Federal Building, National Guard job)
- Operational Safety

LSCC uses weekly job site safety meetings that all workers and supervisors must attend. The meetings involve safety issues and potential safety and health issues on the job site. These meetings also bring the awareness of safety issues to the workers.

- Employee and Community Health

LSCC provides and issues safety gear harness to its workers, and it is mandatory for them to wear company furnished safety protective gear and harnesses to avoid accidents.

- Environmental Compliance (Gravel burning project, Juneau Fed bldg.) PCB removal.

LSCC requires its workers to pack any material that does damage to the environment, such as P.C.B., asbestos, lead paints, into EPA approved containers and deposit it according to regulations. In 2007 LSCC shipped over \$300,000.00 worth of hazardous waste to Oregon EPA approval dump site.

2.9.2. Capability to Follow a Detailed Work Plan and Schedule

Submit documentation that is has competencies and experience or will obtain

- Describe planning and schedule management organization, resources, work processes, and governance model, as well as your experience in applying these to other projects

LSCC has submitted the following document for the project LSCC completed in 2007, “Juneau Federal Building PCG & Lead Paint Mediation Project,” performed for the U.S. General Service Agency (GSA) in Alaska. The total project cost was \$1,350,000. The project required LSCC to remove two PCB contaminated boilers and the lead painted 3000 sf. concrete floor from the Juneau Federal Building mechanical room and replace the lead paints and PCG 6” contaminated concrete floor with a new concrete floor, and provide two temporary hot water boilers. The project was completed on time with no change orders issued by the owner or requested by LSCC.

- Describe projects in which applicant prepared a detailed project plan and schedule, and then successfully developed and executed the project, meeting or exceeding the project’s schedule objectives.

On the above \$1,350,000 PCB and Lead Paint Mediation project, LSCC sat down with the owner team after the contract was signed. We used partnership approval to work with the owner in the Anchorage office and the owner of the site which is located in Juneau. We worked out a mutually agreed upon schedule, work plan, schedule of values, charts for different trade schedules, material and equipment submittals and schedule of arrival, installation, and commissioning. All our workers and subcontractors must submit background checks, finger prints, citizenship papers, and worker nationality issues. Homeland Security issued workers a permit with photo I.D. to work inside the Federal Building. LSCC worked out these plans and successfully completed this project on time and on schedule.

2.9.3 Capability to Operate Within a Cost Estimate

Appropriate documentation that it has or will obtain competencies and experience to execute in accordance with cost estimate

- LSCC will review the project cost management organization, resources, work processes, scheduling. We use job cost control computer programming “master Builder” software to track the project cost and schedule.

We will review every week to make sure costs are on track. Quality control on set of drawings before it goes out to bid to produce an error-free drawing through review by senior engineers. If it is error free, that will cut your costs. Purchase long-lead item materials in advance before the price goes up. Ask our contractors and subcontractors to sign a long-term hourly wage agreement with the unions to assure that wages remain constant throughout the project. No striking clause. Set job cost programming, double check the invoices from supplier and payroll to worker, transportation. Procurement manage material, freight and transportation, and, engineering manager manages design for time frame within the man-hours allocated, labor manager same way. Each task has an estimated cost of labor. Project Management Co. will be the on-site construction management to report to Anchorage office, LSCC & Sinopec team.

- Applicant can evidence by describing projects in which Applicant prepared a project cost estimate and then successfully developed and executed the project

LSCC will use “Juneau Federal Building PCB, Lead Paint Remediation Project” Completed 2007, owner U.S. GSA as a good example to show that the project was completed on time and with no change orders from the owner.

2.9.4. Integrity and Good Business Ethics

- Appropriate documentation evidencing

LSCC has the highest integrity and good business ethics. LSCC President, Dominic S.F. Lee, P.E., received a citation from the Municipality of Anchorage and the U.S. Department of Defense; LSCC will also select a national project management firm such as Fluor and/or CH2MHill to manage the construction phase and commissioning start-up phase of the project to ensure the success.

2.9.5 Other Relevant Factors

- Applicant should submit any other evidence and factors considered to be relevant to the evaluation of the proposed project's likelihood of success.

LSCC has a teaming agreement with Sinopec and has the financial capability to finance and complete the project. Sinopec agrees to buy LNG product and ship to People's Republic of China markets. LSCC with Sinopec engineering design teams have the credentials and experience to perform the engineering design of the project.

Sinopec has over \$100 billion worth design and construction experience in oil and gas pipeline design, compressor station design, gas treatment plant design, NGL/LNG plant design, and construction in China, the Middle East, and African countries.

LSCC has performed oil field development engineering design for ARCO (now Conoco Phillips) at the Kuparuk Oil Field and City of Barrow underground utilidor (construction cost \$340,000,000 for both ARCO projects and the utilidor).

Sinopec is currently building a 2200 kilometer gas pipeline from Sichuan to Shanghai. It is a 36" diameter gas line and will be completed in early 2009. The gas

pipeline was designed by ZYEC Sinopec and is being built by ZPEB Sinopec. It will be operated by ZPEB Sinopec. The Sinopec also provided the \$12 billion (U.S.) financing through corporation reserve bonds for the first phase and will issue revenue bonds for the second phase in the near future.

LSCC is providing resumes for 11 Architect and Engineers that will be committed to work on this project during the planning, engineering design, construction management and inspection phases.

Sinopec also provides 82 Engineers and Construction Managers resumes that are committed to this project. All resumes are attached in the appendix to this proposal.

2.10 PROJECT VIABILITY

2.10.1. Economic Viability

At the present time, the LNG is selling between \$8 to \$10 per MMBTU (1 Million BTU -- or close to \$1,000 CF) in Macau, China. The price of LNG changes according to the oil price based on the Quangdong formulas. If the oil price goes up, the LNG price goes up too.

In the meantime, almost all the LNG to being shipped to Far East countries, such as Japan, South Korea, and China all comes from Malaysia, Western Australia, and Indonesia. The price of LNG goes up slowly, as the oil price goes up. The demand for LNG is also going up. This is a golden opportunity for the State of Alaska and the North Slope Producers to sign a long term commitment contract with Sinopec, who agrees to buy up to 4 BCF/D of LNG at fair market price. The Lower 48 west coast has no need for extra LNG, and they have not built a new LNG terminal for the last 40 years.

For the Trans Canadian gas pipeline, the gas is selling at the Chicago hub under \$5.00 per MCF, and the Canada gas fields can support the slowly increase in demand for the last 5 years, up to a 5% increase. However, the gas pipeline proposal submitted by Mid-America and the big three oil companies to the Murkowski administration was to build a 48" and 52" pipeline, respectively, from the North Slope to Calgary, not to Chicago. It required the Canadians to use an existing pipeline from Calgary to Chicago. However, there are two existing lines that are already 90% utilized, and a segment of new line must be built from Calgary to Chicago. If you consider building a new 52" or 48" large diameter pipeline from the North Slope to Chicago, which is about 3,600 miles, the cost of construction is well over \$35 billion. It has been confirmed by many studies and papers that the price of \$5.00 per MCF cannot support this pipeline. It was also presented by Dr. David T. Lupia, an internationally known Oil & Gas

economist) in his December 2004 paper “Financing an Arctic Gas Delivery System” presented to the Alaska Gas Pipeline conference at Houston, Texas. His conclusion of this North Slope to Chicago gas pipeline has too high a risk and there was not enough return on the investment, therefore it is NOT ECONOMICALLY FEASIBLE.

In our case, it is a simple case. We build a 48” pipeline from the North Slope to Valdez, on the same corridor as TAPS; we will build a gigantic LNG plant and a marine terminal at Anderson Bay and ship the LNG to our buyer, SINOPEC, in China. The LNG in China is currently selling at \$10.00 per MCF. I’ve made an economic comparison for the selling price of \$7, \$8, \$9, \$10, \$11 and \$12 per MCF in an Excel form.

Sales Price	Revenue	US Share	St AK Share	N.S. Producer Share	LSCC Share
\$7.00	10.91 B	1.52 B	1.57B	2.54 B	0.59 B
\$8.00	12.37 B	1.97 B	1.88 B	3.25 B	0.59 B
\$9.00	13.83 B	2.41 B	2.18 B	3.96 B	0.59 B
\$10.00	15.29 B	2.86 B	2.48 B	4.67 B	0.59 B
\$11.00	16.75 B	3.31 B	2.78 B	5.38 B	0.59 B
\$12.00	18.21 B	3.76 B	3.08 B	6.09 B	0.59 B

The above chart demonstrated that it is feasible that the shipping cost of \$1.00 per MC can be negotiated between the buyer and the shipper. Shipping LNG is always the buyer’s responsibility.

The following tables are reproduced in Appendix A and are also located on the accompanying CD in Excel format.

Annual Revenue and Cost Breakdown at \$7.00/MMBTU

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	<hr/>
	1,643

Assume LNG is selling for \$8.00 per MMBTU to China

(\$7.00 per MMBTU = \$7.00 per 1,000 CF)

1,460.00	BCF/A	7.00	MCF =	10,220,000,000
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Assume 0.5 BCF/D for Alaska Sales

182.50	BCF/A	3.79	MCF =	691,675,000
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Total Revenue

\$10,911,675,000

Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG =	4.722	/MCF x	1,460.00	BCF/A	6,893,974,000
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Tariff: Spur Line	1.526	/MCF x	182.50	BCF/A	278,495,000
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Total Tariff					7,172,469,000
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Net Revenue Before Tax (\$10.912 - \$7.172 = \$3.739 Billion)					\$3,739,206,000
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North Slope Producer	0.875	Share =			3,271,805,250
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State of Alaska Royalty	0.125	Royalty =			467,400,750
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Pipeline Operator Income	0.150	% of Tariff			1,075,870,350
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State of Alaska Property Tax	0.020	Tax =	\$32.78B*		655,600,000
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Producers AK Corp. Tax	0.094	Corp Tax =			307,549,694
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Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax			101,131,813
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Producer Fed. Corp. Tax	0.350	Corp Tax =			1,145,131,838
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Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =			376,554,623
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Total State of Alaska Revenue:

12.5% Royalty					467,400,750
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2% Property Tax					655,600,000
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9.4% Corporate Tax on Producer					307,549,694
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9.4% Corporate Tax on Pipeline Operations					101,131,813
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2% Property Tax on North Slope GTP (\$2.1 Billion)					42,000,000
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					\$1,573,682,256

Total Federal Government Revenue:

35% of Producer Income of \$3,379,206,000	1,145,131,838
35% of Pipeline Operator Income of \$1,075,870,350	<u>376,554,623</u>
Total Federal Government Revenue	\$1,521,686,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	3,271,805,250
Less State 9.4% Corporate Tax	307,549,694
Less Federal 35% Corporate Tax	1,145,131,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	<u>42,000,000</u>
Subtotal	1,777,123,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$2,539,475,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	<u>101,131,813</u>
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Annual Revenue and Cost Breakdown at \$8.00/MMBTU

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	1,643

Assume LNG is selling for \$8.00 per MMBTU to China
(\$8.00 per MMBTU = \$8.00 per 1,000 CF)

1,460.00 BCF/A	8.00 MCF =	11,680,000,000
Assume 0.5 BCF/D for Alaska Sales		
182.50 BCF/A	3.79 MCF =	691,675,000

Total Revenue \$12,371,675,000

Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG =	4.722 /MCF x	1,460.00 BCF/A	6,893,974,000
Tariff: Spur Line	1.526 /MCF x	182.50 BCF/A	278,495,000
Total Tariff			7,172,469,000

Net Revenue Before Tax (\$12.372 - \$7.172 = \$5.199 Billion) \$5,199,206,000

North Slope Producer	0.875 Share =	4,549,305,250
State of Alaska Royalty	0.125 Royalty =	649,900,750
Pipeline Operator Income	0.150 % of Tariff	1,075,870,350
State of Alaska Property Tax	0.020 Tax = \$32.78B*	655,600,000
Producers AK Corp. Tax	0.094 Corp Tax =	427,634,694
Pipeline Op. AK Corp Tax	0.094 Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350 Corp Tax =	1,592,256,838
Pipeline Op. Fed. Corp. Tax	0.350 Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	649,900,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	427,634,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
	\$1,876,267,256

Total Federal Government Revenue:

35% of Producer Income of \$4,549,305,250	1,592,256,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
Total Federal Government Revenue	\$1,968,811,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	4,549,305,250
Less State 9.4% Corporate Tax	427,634,694

Less Federal 35% Corporate Tax	1,592,256,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	2,487,413,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$3,249,765,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Annual Revenue and Cost Breakdown at \$9.00/MMBTU

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	<hr/>
	1,643

Assume LNG is selling for \$9.00 per MMBTU to China
(\$9.00 per MMBTU = \$9.00 per 1,000 CF)

1,460.00 BCF/A	9.00	MCF =	13,140,000,000
Assume 0.5 BCF/D for Alaska Sales			

182.50 BCF/A	3.79	MCF =	691,675,000
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Total Revenue \$13,831,675,000

Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG = 4.722 /MCF x 1,460.00 BCF/A = 6,893,974,000

Tariff: Spur Line 1.526 /MCF x 182.50 BCF/A = 278,495,000

Total Tariff 7,172,469,000

Net Revenue Before Tax (\$13.832 - \$7.172 = \$6.659 Billion) \$6,659,206,000

North Slope Producer	0.875	Share =	5,826,805,250
State of Alaska Royalty	0.125	Royalty =	832,400,750
Pipeline Operator Income	0.150	% of Tariff	1,075,870,350
State of Alaska Property Tax	0.020	Tax = \$32.78B*	655,600,000
Producers AK Corp. Tax	0.094	Corp Tax =	547,719,694
Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350	Corp Tax =	2,039,381,838
Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	832,400,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	547,719,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
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	\$2,178,852,256

Total Federal Government Revenue:

35% of Producer Income of \$5,826,805,250	2,039,381,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
	<hr/>
Total Federal Government Revenue	\$2,415,936,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	5,826,805,250
Less State 9.4% Corporate Tax	547,719,694
Less Federal 35% Corporate Tax	2,039,381,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	3,197,703,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$3,960,055,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Annual Revenue and Cost Breakdown at \$10.00/MMBTU

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	1,643

Assume LNG is selling for \$10.00 per MMBTU to China
(\$10.00 per MMBTU = \$10.00 per 1,000 CF)

1,460.00 BCF/A	10.00	MCF =	14,600,000,000
Assume 0.5 BCF/D for Alaska Sales			

182.50 BCF/A	3.79	MCF =	691,675,000
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Total Revenue	\$15,291,675,000
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Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG =	4.722	/MCF x	1,460.00 BCF/A	6,893,974,000
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Tariff: Spur Line	1.526	/MCF x	182.50 BCF/A	278,495,000
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Total Tariff	7,172,469,000
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Net Revenue Before Tax (\$15.292 - \$7.172 = \$8.119 Billion)	\$8,119,206,000
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North Slope Producer	0.875	Share =	7,104,305,250
State of Alaska Royalty	0.125	Royalty =	1,014,900,750
Pipeline Operator Income	0.150	% of Tariff	1,075,870,350
State of Alaska Property Tax	0.020	Tax = \$32.78B*	655,600,000
Producers AK Corp. Tax	0.094	Corp Tax =	667,804,694
Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350	Corp Tax =	2,486,506,838
Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	1,014,900,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	667,804,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
	\$2,481,437,256

Total Federal Government Revenue:

35% of Producer Income of \$7,104,305,250	2,486,506,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
Total Federal Government Revenue	\$2,863,061,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	7,104,305,250
Less State 9.4% Corporate Tax	667,804,694
Less Federal 35% Corporate Tax	2,486,506,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	3,907,993,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$4,670,345,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	<hr/>
	1,643

Assume LNG is selling for \$11.00 per MMBTU to China
(\$11.00 per MMBTU = \$11.00 per 1,000 CF)

1,460.00 BCF/A	11.00	MCF =	16,060,000,000
Assume 0.5 BCF/D for Alaska Sales			

182.50 BCF/A	3.79	MCF =	691,675,000
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Total Revenue \$16,751,675,000

Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG = 4.722 /MCF x 1,460.00 BCF/A 6,893,974,000

Tariff: Spur Line 1.526 /MCF x 182.50 BCF/A 278,495,000

Total Tariff 7,172,469,000

Net Revenue Before Tax (\$16.752 - \$7.172 = \$9.579 Billion) \$9,579,206,000

North Slope Producer	0.875	Share =	8,381,805,250
State of Alaska Royalty	0.125	Royalty =	1,197,400,750
Pipeline Operator Income	0.150	% of Tariff	1,075,870,350
State of Alaska Property Tax	0.020	Tax =	\$32.78B* 655,600,000
Producers AK Corp. Tax	0.094	Corp Tax =	787,889,694
Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350	Corp Tax =	2,933,631,838
Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	1,197,400,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	787,889,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
	<hr/>
	\$2,784,022,256

Total Federal Government Revenue:

35% of Producer Income of \$8,381,805,250	2,933,631,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
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Total Federal Government Revenue	\$3,310,186,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	8,381,805,250
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Less State 9.4% Corporate Tax	787,889,694
Less Federal 35% Corporate Tax	2,933,631,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	4,618,283,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$5,380,635,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

Annual Revenue and Cost Breakdown at \$12.00/MMBTU

Revenue

Assume shippers agree to commit to 4.5 BCF/D or 1,642.5 BCF/A

BCF/A for China	1,460
BCF/A for Alaska	183
	1,643

Assume LNG is selling for \$12.00 per MMBTU to China
(\$12.00 per MMBTU = \$12.00 per 1,000 CF)

1,460.00 BCF/A	12.00	MCF =	17,520,000,000
Assume 0.5 BCF/D for Alaska Sales			

182.50 BCF/A	3.79	MCF =	691,675,000
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Total Revenue \$18,211,675,000

Tariff = \$4.106 + 15% Profit to Operator = \$4.722

Tariff: LNG = 4.722 /MCF x 1,460.00 BCF/A 6,893,974,000

Tariff: Spur Line 1.526 /MCF x 182.50 BCF/A 278,495,000

Total Tariff 7,172,469,000

Net Revenue Before Tax (\$18.212 - \$7.172 = \$11.039 Billion) \$11,039,206,000

North Slope Producer	0.875	Share =	9,659,305,250
State of Alaska Royalty	0.125	Royalty =	1,379,900,750
Pipeline Operator Income	0.150	% of Tariff	1,075,870,350
State of Alaska Property Tax	0.020	Tax = \$32.78B*	655,600,000
Producers AK Corp. Tax	0.094	Corp Tax =	907,974,694
Pipeline Op. AK Corp Tax	0.094	Pipeline Operator Profit Tax	101,131,813
Producer Fed. Corp. Tax	0.350	Corp Tax =	3,380,756,838
Pipeline Op. Fed. Corp. Tax	0.350	Corp Tax =	376,554,623

Total State of Alaska Revenue:

12.5% Royalty	1,379,900,750
2% Property Tax	655,600,000
9.4% Corporate Tax on Producer	907,974,694
9.4% Corporate Tax on Pipeline Operations	101,131,813
2% Property Tax on North Slope GTP (\$2.1 Billion)	42,000,000
	\$3,086,607,256

Total Federal Government Revenue:

35% of Producer Income of \$9,659,305,250	3,380,756,838
35% of Pipeline Operator Income of \$1,075,870,350	376,554,623
Total Federal Government Revenue	\$3,757,311,460

Total North Slope Producers Revenue:

Total Revenue from 87.5% Share (above)	9,659,305,250
Less State 9.4% Corporate Tax	907,974,694
Less Federal 35% Corporate Tax	3,380,756,838
Less Federal Tax on GTP (\$2.1 Billion x 2%)	42,000,000
Subtotal	5,328,573,719
Plus GTP Tariff of \$0.464 x 1,643 BCF/A	762,352,000
Total Revenue After Taxes	\$6,090,925,719

Total LSCC/Sinopec Revenue as Pipeline and LNG Plant Operator:

Total Revenue = 15% of Tariff	1,075,870,350
Less Federal Corporate Tax of 35%	376,554,623
Less State Corporate Tax of 9.4%	101,131,813
Total Revenue After Taxes	\$598,183,915

*\$32.78 Billion = Estimated Project Construction Cost

2.10.2 Technical Viability

LSCC recognizes that the State of Alaska has spent several millions of dollars obtaining studies and reports from experts concerning the Alaska Gas Pipeline. One such report titled “Transport of North Slope Natural Gas to Tidewater”, submitted to ALASKA NATURAL GAS DEVELOPMENT AUTHORITY, dated April 7, 2005 by Michael Baker, Jr. Inc. used the HYSYS model for the hydraulic and gas compression calculations. LSCC performed its own hydraulic and compressor calculations to verify these results. See Appendix B.

LSCC and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation (Sinopec), are submitting the application for the Alaska State AGIA project. Sinopec is one of the two largest petro companies in China, currently ranked no. 17 of Fortune Global 500 companies. If the State of Alaska selects LSCC to receive the AGIA license, a new contract will be signed and a new legal entity will be created to develop a preliminary plan to build a natural gas pipeline and related facilities. This new agreement will make provision for financial back-up to provide funding for engineering and design of the pipeline, liquid natural gas plant (LNG), natural gas liquids plant (NGL), marine terminal, natural gas and LNG storage facilities, purchase or lease of a fleet of 20 ships to transport LNG to the Alaskan coastal cities and the world market. The vast expertise and engineering design technology of Sinopec would be utilized.

LSCC and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation

(Sinopec), will develop a technical design for the entire project that incorporates practices for controlling carbon emissions from natural gas systems as established by the United States Environmental Protection Agency wherever economical, practical and required by regulation.

LSCC/Sinopec will comply with the United States EPA's implementation practices for controlling carbon emissions from natural gas systems. In our project, the largest amount of CO₂ will come out from the North Slope producers estimating that it would be up to 12% of the 4 to 5 BCF/D. However, at the North Slope CCP Plant, producers have been able to re-inject the CO₂ back into the underground reservoirs. In the process, they use 18 large compressors to do the job. This process has been approved by the EPA. The CO₂ emission levels from these 18 large 35,000 hp compressors have been approved by the E.P.A.

For the compressor stations along the gas pipeline, each station has a 75,000 hp operation capacity to keep the pressure loss on each segment of the pipe and to maintain a working gas pressure of 2,500 psi. So, if the EPA approved the 630,000 hp worth of compressor stations at the North Slope "Central Gas Processing Facility" (CGF), it should also approve the 75,000 hp compressor stations along the proposed gas pipeline.

The use of fuel is tremendous for the gas separation and liquefaction at both the NGL plant and LNG plant. LSCC/Sinopec will provide engineering calculations for CO₂ emission control devices, such as scrubbers on all the compressor exhaust stacks to keep the CO₂ emissions under control. LSCC/Sinopec will submit these plans to the EPA for approval. LSCC/Sinopec will also consider other remedies to CO₂ emission control as well.

LSCC will use its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, to resolve any extraordinary engineering challenges

associated with this project. SINOPEC's vast engineering experience and large supply of personnel should be able to handle any challenges.

2.11. PROPOSED REIMBURSEMENT

- Proposed percentage of qualified expenditures and total estimated amount of reimbursement to be paid to Applicant on an annual basis to the first binding open season.

During this period, the Applicant will spend a limited amount to permit applications and FEED, since the shipper commitment is a MUST for the project to go forward. Otherwise, money spent will be wasted if shippers refuse to nominate and commit gas into the gas pipeline. LSCC will estimate less than 5% of the total qualified expenditures, about \$50 million to \$100 million.

At the close of the first binding open season, LSCC/Sinopec will spend up to 1.775 billion dollars on the project engineering design, application, and pre-construction, and management fee. The AGIA reimbursement will be close to \$490 million dollars, if the shippers agree to nominate 100% of 4.5 BCF/D into the pipeline with 4 BCF/D for LNG use.

For AGIA reimbursement, the “Qualified Expenditures” shall include all personnel working on this project. It should not discriminate against any persons or firms because of their race, color, age or national origin, or the location of the work being performed. These locations include Alaska, the Lower 48 states, and foreign countries. This is a must condition required by LSCC that the State must agree to in order to move forward with the project.

2.12. SUMMARY

The risks for the pipeline projects include willingness of producers' to ship gas, leak impact factor, third-party damage, corrosion, design error, incorrect operation, natural damage such as earthquake, flood, terrorist attack, fire or explosion, and worker strikes. Another risk for the project success is financial support, war, government intervention, State of Alaska cancel the project, U.S. Government and Alaska State Government guarantee of loans and bank participation in loaning money to the project. All contribute to the likelihood of success or failure.

Producer must be willing to ship at least 4 BCF/D. There must be a buyer to buy at least 30 MTP/A. Financing must be available through government guarantee and private investors. Possess the technical ability to design, construct, and operate a viable gas pipeline and LNG plant.

LSCC will offer producer a low tariff or offer to buy the gas at the well head. LSCC has a letter of Intent that Sinopec will buy gas from this project, opening the possibility for a very large People's Republic of China market. Using Sinopec as a subcontractor with interest in financing the project will give the project the financial backing it needs. The combined strength of LSCC as a long-time Arctic engineering firm and Sinopec, one of the world's major oil and gas companies, will provide the technical strength needed to design, construct, and operate the AGIA project as described in this proposal.

This project will only be successful if LSCC:

1. Obtains shippers commitment
2. Obtains FERC permits
3. Obtains export LNG license
4. Obtains Financing
5. Obtains material, ships and equipment
6. Completes all construction on time and within budget

The calculation of the state's NPV will be affected by project revenue streams that flow to the state. These include royalty; production tax; state corporate income tax associated with project transportation and gas production income; and property tax associated with project property.

LSCC provides its best estimate of the magnitude of the project revenue streams based on the following assumptions:

- Gas flow rate 4 BCF/D
- Net back to shippers at inlet to gas pipeline is \$2.00 per MCF
- Macao, China LNG price is \$10.00 per MMBTU
- Tariff is \$4.772 per MCF to LSCC 1 per MCF
- Interest Rates based on US 10 Yr Treasury Bonds 3 year history 4.58%
- Shipping is \$1.00/MCF
- Tax Rates
 - Royalty 12.5%
 - Property Tax 2%
 - AK CIT 9.4%
 - US CIT 35%

Estimated revenue streams are very high, in the billions of dollars to the State, Federal Government and the Producers.

Additional revenue will be generated for the state by the Petroleum Profits Tax and Production Tax regulations that have been recently approved. This regulation is very new and has not been evaluated for this Application but it will generate a positive cash flow to the state.

The net back value would be the China sale for LNG minus shipping costs, pipeline transportation costs, liquefaction costs, and treating costs. With a sales price currently at \$10.00, the netback should be in the billions of dollars for the State, Federal Government and North Slope Producers.

Little Susitna Construction Company (LSCC) of Anchorage, Alaska and its prime sub-consultant, sub-contractor, Zhongyuan Engineering General Construction Company of ZPEB SINOPEC, Design Institute of ZYEC SINOPEC, and its ZPEB SINOPEC International Division, all part of China Petroleum and Chemical Corporation (Sinopec), are submitting a proposal for the Alaska State AGIA project. Sinopec is one of the two largest petro companies in China, currently ranked no. 17 of Fortune Global 500 companies. A teaming agreement has been signed between Little Susitna Construction Co. (Little Su) and ZPEB Sinopec in Henan, China, on Oct. 24, 2007. This agreement allows LSCC to apply for the pipeline license with financial, engineering, and other resource backup from Sinopec. LSCC will pay all of its bills on time and maintain good accounting practices throughout the project.

A teaming agreement has been signed between Little Susitna Construction Co. (Little Su) and ZPEB Sinopec in Henan, China, on Oct. 24, 2007. This agreement allows LSCC to apply for the pipeline license with 100% financial, engineering, and other resource backup from Sinopec. A letter of intent is signed by ZPEB Sinopec to purchase all the natural gas liquids (NGL) and liquefied natural gas (LNG) which is not used in the Alaskan market. These facts give LSCC a distinct advantage over other applicants and should be considered evaluating the Application. Since our team has the experience to design and build the gas pipeline, NGL/LNG plants and run the pipeline operation, we have a buyer of the gas product (which is LNG), and we have the financing now to do the project; we should be evaluated heavily in our favor to be selected to be awarded this license.

LSCC/Sinopec agrees to waive the right to appeal the rejection of the application as incomplete, the issuance of a license to another applicant, or the determination under AS 43.90.180(b) that no application merits the issuance of a license per (AS 43.90.130)(16).

CERTIFICATION

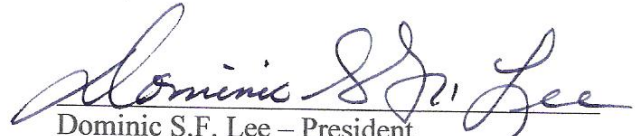
I certify that I am authorized to submit this Application on behalf of Little Susitna Construction Company, Inc.


I also certify that Applicant and any and all successors and assigns agrees that in the event Applicant is awarded an AGIA License it will: (1) comply with AGIA and its requirements their entirety, AS 43.90, *et seq.*, as in effect on June 8, 2007, (2) perform all of the actions and fulfill all of the Required and Additional Commitments listed in its Application and as required in Appendix D ; (3) be bound by the License terms and conditions as set forth in Section 4 of the Request for Applications, and (4) abide by, in addition to AGIA, all other applicable laws, rules and regulations. This certification includes Applicant's agreement to act Promptly and Diligently in fulfilling all of the foregoing requirements, commitments, and other obligations.

In addition, I certify under AS 43.90.130(16) that by submitting this application, Applicant has waived the right to appeal the rejection of its Application as incomplete, the issuance of a License to another applicant, or the Determination under AS 43.90.180(b) that no Application merits the issuance of a License.

Finally, I certify that the Applicant agrees this certification is provided by Applicant as consideration for the inducements provided to Applicant under AS43.90.110, and that this certification shall remain binding upon the Applicant.


DATED at Anchorage, Alaska this 29th day of November 2007.


Dominic S.F. Lee – President
Little Susitna Construction Company, Inc.


Freddie Sue lee – Secretary
Little Susitna Construction Company, Inc.

SUBSCRIBED AND SWORN before me this 29th day of November 2007.




Notary Public in and for Alaska
My commission Expires: 12/11/2010

STATE OF ALASKA)
)
THIRD JUDICIAL DISTRICT) ss:
)
MUNICIPALITY OF ANCHORAGE)

I, Freddie Sue Lee, as Secretary of the Little Susitna Construction Company, affirm that Dominic S.F. Lee is the President of the corporation, and as such, has full authority to apply for the AGIA Gasline Construction license, and he is authorized by the Board of Directors to sign the contract with full authority bind the corporation and that the seal affixed is the corporate seal of said corporation.

Freddie Sue Lee
Freddie Sue Lee, Corporate Secretary

A circular notary seal for Clint Eline Miller, a Notary Public in the State of Alaska. The seal features his name "CLINT ELINE MILLER" at the top, "NOTARY PUBLIC" in the center, and "STATE OF ALASKA" at the bottom. Below the state name, it says "Commission Expires Nov. 30, 2010". The entire seal is surrounded by a decorative border of small, repeating "S" shapes.

Notary Public in and for the State of Alaska
My Commission Expires: 11-30-2010

REQUIRED COMMITMENTS

Little Susitna Construction Company, Inc. and its major subcontractor, Sinopec, commit to the following requirements made by the State of Alaska and AGIA:

1. Provide gas treatment services that will accommodate the initial pipeline design and future expansions. LSCC does not intend to own these facilities as outlined in the application (see section 2.1.2).
2. Applicant will comply with AS 43.90.132 (2) (D) (ii) in regard to the pipeline system and facilities that will deliver gas to the LNG facility as outlined in the application (see section 2.1.3).
3. Applicant commits to the removal and marketing of natural gas liquids, liquefiabiles and other gaseous and/or non-gaseous by-products of the natural gas stream (see section 2.1.4).
4. Applicant commits to the actions contained within its application and will support these before regulatory bodies; however, if the regulatory bodies make decisions that require us to depart from what has been proposed in the application, the decisions of the regulatory bodies will control (see section 2.2.3).
5. Applicant commits to conducting the open season as outlined in our proposal (see section 2.2.3.2)
6. Applicant commits to the capital structure, the capital structure for future expansion facilities, and the method for rate treatment outlined in the application (see section 2.2.3.5).
7. Applicant is required to commit to any proposed alternative ratemaking methods or incentives; however, LSCC did not propose any alternative rate methods in our application (see section 2.2.3.6).

8. Applicant is required to commit to any proposed incentives for expansion; however, LSCC did not propose any expansion plans at this time.
9. Applicant commits to the in-state services outlined in our application (see section 2.2.3.9).
10. Applicant commits to the rate treatment of the State's Reimbursement outlined in our proposed (see section 2.2.3.10).
11. Applicant commits to applying for the necessary U.S. export authorizations required since the majority of our proposed LNG market is not located in the United States (see section 2.2.3.14.).
12. Applicant commits to concluding a binding open season, pre-filing procedures, and applying for a FERC Certificate of Public Convenience and Necessity to operate a FERC-Certificated Project as outlined in the application (see section 2.2.4.3).
13. Applicant commits to conclude an open season in accordance with the requirements for an RCA certificated project as outlined in the application (see section 2.2.4.4).
14. Applicant commits to the requirement for a headquarters in the state of Alaska, and providing as outlined in the application (see section 2.2.5).
15. Applicant commits to negotiating a project labor agreement as outlined in the application (see section 2.3.3.)
16. Applicant commits to Alaska Hire as outlined in the application (see section 2.3.4).
17. Applicant commits to performing market assessments per AS 43.90.130(5) as outlined in the application (see section 2.4.1.1).
18. Applicant commits to expand the proposed project in reasonable increments and promptly and diligently pursue all regulatory approvals as outlined in the application (see section 2.4.1.2).

19. Applicant commits to the general expansion provisions as outlined in the application (see section 2.4.1.4).
20. Applicant commits to provide a technical design that incorporates standards set by the U.S. EPA as outlined in the application (see section 2.10.2).

APPLICANT REQUIRED TERMS AND CONDITIONS

State of Alaska has to agree to these terms and conditions required by the Applicant, LSCC:

1. State to prove that gas reserves on the North Slope must be sufficient to support the project for a minimum of 30 years with 4.5 BCF/D.
2. After the selection, a new contract will be drawn up by all parties involved and any terms and conditions will be negotiated to mutual satisfaction.
3. State of Alaska will not charge any Right Of Way (R.O.W.), lease fees, land use fees, if the State owns the land.
4. State of Alaska will allow applicant to use existing, or update EIS, permits, new river and stream crossings of the pipeline and other environmental issues that are related to the project.
5. State will give incentives in the form of a tax rate reduction on applicant's corporation income tax.
6. State of Alaska will consider waiving the property tax of this project as well as local government property tax from ten to twenty years.
7. Any gas delivery to this project's first compressor station at the North Slope must meet the natural gas specification, and be free from CO₂, N, water, slug, mud, and other impurities. The shippers are not permitted to take any NGL liquid and flammable gas such as methane, propane, ethane, butane, pentanes, etc. The gas specification is in Section 2.1.4.
8. Applicant has the first right for the 4 BCF/day gas for LNG processing and to satisfy the buyer of LNG and NGL products. The spur line has the next right to the 4 other tap in points.

9. Applicant will provide gas to the spur line (as one of the tapping points) to be used for heating of houses and institutions, and commercial buildings, but not for industrial use to make LNG, fertilizer, urea, ammonia, and other chemical products.
10. The gas can also be used for existing electricity power plants that are using natural gas, but not to an existing coal-fired power plant. The applicant respects the Alaska miner's right to sell coal for existing coal power plants, so no mining jobs are lost.
11. The applicant has the right to choose four (4) other tapping points along the gas main line out of the following cities: Fairbanks, North Pole, Delta Junction, Glennallen, and Valdez, and the gas is used for heating, and generating electricity only, and not to replace coal-fired power plants with new gas-fired power plants and the gas is not for industrial use.
12. The Applicant is not responsible for the infrastructure distribution system after the shut off valve of the tapping points.
13. For the Spur Line, the Applicant is not responsible after the shut off valve of the spur line connect to the Enstar Gas Company system and CEA power plant. However, this gas can not be used for industrial purposes to make LNG, fertilizer, urea, ammonia, and other petro chemical products.
14. The Applicant will provide LNG at the Valdez terminal to be picked up by LNG ships. Any cost for transportation will be paid by the buyers of the Alaskan communities for shipping cost to Seward, rail costs to Nenana, and barge costs to the Yukon River communities. The China LNG buyer is responsible to lease the LNG ship and pay transportation costs to China.

15. The shipping cost of propane from Valdez and Seward will be an add-on cost of transportation by the buyer. Any cost, such as fuel, ship operation, maintenance, labor cost, insurance and tax and foreign country taxes will all be included in this propane transportation cost. This shipping cost for the whole fleet of LNG ships will be the buyer's responsibility.
16. The State of Alaska will not tax LNG and propane ships for production tax, property tax, and any other taxes related to the fleets. Additionally, the State of Alaska will not tax LNG and other natural gas byproducts any export tax, inventory tax, etc.
17. The State of Alaska will not impose any import tax for materials supplied by local Alaska firms, Lower 48 firms, and overseas firms.
18. The State of Alaska will allow China's project teams' engineers, technicians, consultants and other personnel to work on this project during the construction of the projects and to allow special technicians to install the LNG, NGL plants and other equipment that comes from China by ship or by barge, in modules and parts that are required to be put back together in order to make it work. This provision applies to any LNG plant, NGL plant, LNG tanks, pipeline, and compressor stations. These very specialized technical personnel may come from different countries of the world. This team will also assist in start up and running the pipeline and LNG plant project until they can train the local technical personnel to take over the task.
19. The rates and costs used in this proposal are current (today) prices only. The escalation cost of operations, labor, materials, fuel, equipment repair and replacement, and transportation costs will be adjusted yearly.

20. Any propane, LNG transportation or distribution system is a local community and State of Alaska responsibility, including, but not limited to, LNG ship leasing, receiving dock facilities, storage facility, regassification, distribution networks, buying and selling of propane and LNG. The applicant is only responsible to have the LNG at the Valdez Marine Terminal dock for loading onto the LNG ships.
21. For the propane project, the Applicant is only responsible to have the propane bottles at the Valdez Marine Terminal dock for pick up. The buyer is responsible to ship the propane to Seward and the buyer of the propane must make arrangements to use trains to ship it to Nenana for barging down the Yukon River to the users. The propane tanks can be leased or purchased from Applicant or from a local propane distribution company.
22. The State of Alaska and local communities must agree to not tax the LNG and propane sales operations any property taxes, which would increase the cost of energy to the people of the Alaskan communities.
23. It is the Applicant's wishes that the State would subsidize the in-state use of the natural gas, LNG and Program in the Alaska communities, by using half of the royalty money (6.25%, or about \$500 million a year) to benefit the people of Alaska so that no one has to pay a higher heating and electricity bills, especially the rural communities. With the government subsidizing the gas, Alaska can enjoy the 32 cents per 1,000 cubic feet cost for natural gas again, which is equivalent to 33 cents per gallon of gasoline. Wow!
24. The State of Alaska shall reimburse the Applicant for "Qualified Expenditures" under the AGIA Act at least four times per year. The reimbursement should include all the personnel work on this gas pipeline project. The State shall not discriminate against any person and company because of their race, color, age, sex, or national origin, U.S.

citizens or foreigners whether their location where they perform their work is in Alaska, the Lower 48, or other foreign countries.

25. If disputes arise between the State of Alaska, LSCC/Sinopec, pipeline contractor, material and equipment supplier and labor unions, these cases should go to the U.S. Federal Court because a party of a foreign country is involved.
26. LSCC/Sinopec also reserves the right to operate the LNG/NGL plants as separate entities instead of as a part of the “Alaskans First” Pipeline Service Company.
27. The interest rate we used for the proposal is based on a 5% government-guaranteed bond for 100% financing as directed by AGIA. The actual interest rate will change for the U.S. Government-guaranteed bond and the portion of the cost not covered by government guaranteed bonds will have to be obtained from the commercial banking market at a much higher rate. This new rate will be used in our contract negotiations with the State of Alaska and FERC.
28. The State of Alaska agrees to deal with the North Slope producers, the Applicant, and agrees to meet to resolve differences.
29. The State of Alaska agrees that the government of the People’s Republic of China has final approval of this contract.

5.4. APPENDIX D APPLICATION CHECKLIST

Applicant must complete the attached checklist and submit the completed document with its Application. The purpose of the checklist is to assist Applicant and the state in confirming that submissions are complete and have addressed all the sections of AS 43.90.130. Applicant should indicate the section in its Application where the information or Commitments are stated in the appropriate column. Failure to appropriately address any of the requirements or Commitments in this checklist could result in an Application being rejected as incomplete.

Final determination of the completeness of an Application rests with the Commissioners.

Statute	Requirement	RFA Reference	Applicant's Reference
43.90.130 (1)	Application must be filed by the deadline	1.6	N/A
43.90.130 (2)	<i>provide a thorough description of a proposed natural gas pipeline project for transporting natural gas from the North Slope to market, which description may include multiple design proposals, including different design proposals for pipe diameter, wall thickness, and transportation capacity, and which description shall include:</i>	2.1	2.1
(A)	<i>the route proposed for the natural gas pipeline, which may not be the route described in AS 38.35.017(b);</i>	2.1.1.	2.1.1
(B)	<i>the location of receipt and delivery points and the size and design capacity of the proposed natural gas pipeline at the proposed receipt and delivery points, except that this information is not required for in-state delivery points unless the application proposes specific in-state delivery points;</i>	2.1.1	2.1.1
(C)	<i>an analysis of the project's economic and technical viability, including a description of all pipeline access and tariff terms the applicant plans to offer;</i>	2.10. and 2.2.3.4.	2.10 and 2.2.3.4
(D)	<i>an economically and technically viable work plan, timeline, and associated budget for developing and performing the proposed project, including field work, environmental studies, design, and engineering, implementing practices for controlling carbon emissions from natural gas systems as established by the United States Environmental Protection Agency, and complying with all applicable state, federal, and international regulatory requirements that affect the proposed project; the applicant shall address the following:</i>	2.2 to 2.8	2.2 + 2.8
(D) (i)	<i>if the proposed project involves a pipeline into or through Canada, a thorough description of the applicant's plan to obtain necessary rights-of-way and authorizations in Canada, a description of the transportation services to be provided and a description of rate-making methodologies the applicant will propose to the regulatory agencies, and an estimate of rates and charges for all services;</i>	2.2.3.13 2.2.4.1 2.2.4.5	N/A

Statute	Requirement	RFA Reference	Applicant's Reference
(D) (ii)	if the proposed project involves marine transportation of liquefied natural gas, a description of the marine transportation services to be provided and a description of proposed rate-making methodologies; an estimate of rates and charges for all services by third parties; a detailed description of all proposed access and tariff terms for liquefaction services or, if third parties would perform liquefaction services, identification of the third parties and the terms applicable to the liquefaction services; a complete description of the marine segment of the project including the proposed ownership, control, and cost of liquefied natural gas tankers, the management of shipping services, liquefied natural gas export, destination, re-gasification facilities, and pipeline facilities needed for transport to market destinations, and the entity or entities that would be required to obtain necessary export permits and licenses or a certificate of public convenience and necessity from the Federal Energy Regulatory Commission for the transportation of liquefied natural gas in interstate commerce if United States markets are proposed; and all rights-of-way or authorizations required from a foreign country;	2.1.3 2.2.3.14	2.1.3 2.2.3.14
43.90.130 (3)	If the proposed project is within the jurisdiction of FERC, does the Application commit:		
(A)	conclude, by a date certain that is not later than 36 months after the date the license is issued, a binding open season that is consistent with the requirements of 18 C.F.R. Part 157, Subpart B (Open Seasons for Alaska Natural Gas Transportation Projects) and 18 C.F.R. 157.30 - 157.39;	2.2 2.2.4.3 2.2.3	2.2 2.2.4.3 2.2.3
(B)	apply for Federal Energy Regulatory Commission approval to use the pre-filing procedures set out in 18 C.F.R. 157.21 by a date certain, and use those procedures before filing an application for a certificate of public convenience and necessity, except where the procedures are not required as a result of sec. 5 of the President's Decision issued under 15 U.S.C. 719 et seq. (Alaska Natural Gas Transportation Act of 1976); and	2.2 2.2.4.3	2.2 2.2.4.3
(C)	apply for a Federal Energy Regulatory Commission certificate of public convenience and necessity to authorize the construction and operation of the proposed project described in this section by a date certain;	2.2 2.2.4.3	2.2 2.2.4.3
43.90.130 (4)	if the proposed project is within the jurisdiction of the Regulatory Commission of Alaska, commit to		
(A)	conclude, by a date certain that is not later than 36 months after the date the license is issued, a binding open season that is consistent with the requirements of AS 42.06;	2.2 2.2.4.4	2.2 2.2.4.4
(B)	apply for a certificate of public convenience and necessity to authorize the construction and operation of the proposed project by a date certain;	2.2 2.2.4.4	2.2 2.2.4.4
43.90.130 (5)	commit that after the first binding open season, the applicant will assess the market demand for additional pipeline capacity at least every two years through public nonbinding solicitations or similar means;	2.4 2.4.1.1	2.4 2.4.1.1
43.90.130 (6)	commit to expand the proposed project in reasonable engineering increments and on commercially reasonable terms	2.4	2.4

Statute	Requirement	RFA Reference	Applicant's Reference
	that encourage exploration and development of gas resources in this state;	2.4.1.2	2.4.1.2
43.90.130 (7) (A)	(A) will propose and support the recovery of mainline capacity expansion costs, including fuel costs, from all mainline system users through rolled-in rates as provided in (B) and (C) of this paragraph or through a combination of incremental and rolled-in rates as provided in (D) of this paragraph;	2.4 2.4.1.3 2.4.1.1	2.4 2.4.1.3 2.4.1.1
(B)	will propose and support the recovery of mainline capacity expansion costs, including fuel costs, from all mainline system users through rolled-in rates; an applicant is obligated under this subparagraph only if the rolled-in rates would increase the rates (i) not described in (ii) of this subparagraph by not more than 15 percent above the initial maximum recourse rates for capacity acquired before commercial operations commence; in this sub- subparagraph, "initial maximum recourse rates" means the highest cost- based rates for any specific transportation service set by the Federal Energy Regulatory Commission, the Regulatory Commission of Alaska, or the National Energy Board of Canada, as appropriate, when the pipeline commences commercial operations; (ii) by not more than 15 percent above the negotiated rate for pipeline capacity on the date of commencement of commercial operations where the holder of the capacity is not an affiliate of the owner of the pipeline project; for the purposes of this sub- subparagraph, "negotiated rate" means the rate in a transportation service agreement that provides for a rate that varies from the otherwise applicable cost-based rate, or recourse rate, set out in a gas pipeline's tariff approved by the Federal Energy Regulatory Commission, the Regulatory Commission of Alaska, or the National Energy Board of Canada, as appropriate; or (iii) for capacity acquired in an expansion after commercial operations commence, to a level that is not more than 115 percent of the volume-weighted average of all rates collected by the project owner for pipeline capacity on the date commercial operations commence;	2.4 2.4.1.3 2.4.1.1	2.4 2.4.1.3 2.4.1.1
(C)	will, if recovery of mainline capacity expansion costs, including fuel costs, through rolled-in rate treatment would increase the rates for capacity described in (B) of this paragraph, propose and support the partial roll-in of mainline expansion costs, including fuel costs, to the extent that rates acquired before commercial operations commence do not exceed the levels described in (B) of this paragraph;	2.4 2.4.1.3 2.4.1.1	2.4 2.4.1.3 2.4.1.1
(D)	may, for the recovery of mainline capacity expansion costs, including fuel costs, that, under rolled-in rate treatment, would result in rates that exceed the level in (B) of this paragraph, propose and support the recovery of those costs through any combination of incremental and rolled-in rates;	2.4 2.4.1.3 2.4.1.1	2.4 2.4.1.3 2.4.1.1
43.90.130 (8)	state how the applicant proposes to deal with a North Slope gas treatment plant, regardless of whether that plant is part of the applicant's proposal, and, to the extent that the plant will be owned entirely or in part by the applicant, commit to seek	2.2 2.2.3.12	2.2 2.2.3.12

Statute	Requirement	RFA Reference	Applicant's Reference
	<i>certificate authority from the Federal Energy Regulatory Commission if the proposed project is engaged in interstate commerce, or from the Regulatory Commission of Alaska if the project is not engaged in interstate commerce; for a North Slope gas treatment plant that will be owned entirely or in part by the applicant, for rate-making purposes, commit to value previously used assets that are part of the gas treatment plant at net book value; describe the gas treatment plant, including its design, engineering, construction, ownership, and plan of operation; the identity of any third party that will participate in the ownership or operation of the gas treatment plant; and the means by which the applicant will work to minimize the effect of the costs of the facility on the tariff;</i>		
43.90.130 (9)	<i>propose a percentage and total dollar amount for the state's reimbursement under AS 43.90.110(a)(1)(A) and (B) to be specified in the license;</i>	2.11	2.11
43.90.130 (10)	<i>commit to propose and support rates for the proposed project and for any North Slope gas treatment plant that the applicant may own, in whole or in part, that are based on a capital structure for rate-making that consists of not less than 70 percent debt;</i>	2.2 2.2.3.5	2.2 2.2.3.5
43.90.130 (11)	<i>describe the means for preventing and managing overruns in costs of the proposed project, and the measures for minimizing the effects on tariffs from any overruns;</i>	2.2.3.6 2.2.3.11	2.2.3.6 2.2.3.11
43.90.130 (12)	<i>commit to provide a minimum of five delivery points of natural gas in this state;</i>	2.1.1 2.2.3.9	2.1.1 2.2.3.9
43.90.130 (13) (A)	<i>commit to offer firm transportation service to delivery points in this state as part of the tariff regardless of whether any shippers bid successfully in a binding open season for firm transportation service to delivery points in this state, and commit to offer distance-sensitive rates to delivery points in this state consistent with 18 C.F.R. 157.34(c)(8); and</i>	2.2.3.9	2.2.3.9
(B)	<i>commit to offer distance-sensitive rates to delivery points in the state consistent with 18 C.F.R. 157.34(c)(8);</i>	2.2.3.9	2.2.3.9
43.90.130 (14)	<i>commit to establish a local headquarters in this state for the proposed project;</i>	2.2.5	2.2.5
43.90.130 (15) (A)	<i>hire qualified residents from throughout the state for management, engineering, construction, operations, maintenance, and other positions on the proposed project.</i>	2.3.4	2.3.4
(B)	<i>contract with businesses located in the state;</i>	2.3.4	2.3.4
(C)	<i>establish hiring facilities or use existing hiring facilities in the state;</i>	2.3.4	2.3.4
(D)	<i>use, as far as is practicable, the job centers and associated services operated by the Department of Labor and Workforce Development and an Internet-based labor exchange system operated by the state.</i>	2.3.4	2.3.4
43.90.130 (16)	<i>waive the right to appeal the rejection of the application as incomplete, the issuance of a license to another applicant, or</i>	1.13.7	2.12

Statute	Requirement	RFA Reference	Applicant's Reference
	<i>the determination under AS 43.90.180(b) that no application merits the issuance of a license;</i>	Appendix D	
43.90.130 (17)	<i>commit to negotiate, before construction, a project labor agreement to the maximum extent permitted by law; in this paragraph, "project labor agreement" means a comprehensive collective bargaining agreement between the licensee or its agent and the appropriate labor representatives to ensure expedited construction with labor stability for the project by qualified residents of the state;</i>	2.3.3	2.3.3
43.90.130 (18)	<i>commit that the state reimbursement received by a licensee may not be included in the applicant's rate base, and shall be used as a credit against licensee's cost of service;</i>	2.2.3.10	2.2.3.10
43.90.130 (19)	<i>provide a detailed description of the applicant, all entities participating with the applicant in the application and the project proposed by the applicant, and persons the applicant intends to involve in the construction and operation of the proposed project; the description must include the nature of the affiliation for each person, the commitments by the person to the applicant, and other information relevant to the commissioners' evaluation of the readiness and ability of the applicant to complete the project presented in the application;</i>	2.8	2.8
43.90.130 (20)	<i>demonstrate the readiness, financial resources, and technical ability to perform the activities specified in the application by describing the applicant's history of compliance with safety, health, and environmental requirements, the ability to follow a detailed work plan and timeline, and the ability to operate within an associated budget.</i>	All of Section 2 and 2.9	2 2.9
Required Documents :			
	Signed Application with Corporate Approvals	1.10.4 1.13.3	2.12
	Signed Certification, Appendix E	1.13.3	2.12
	List of Applicant's Required and Additional Commitments		2.12
	Electronic Copy of Entire Application (On CD in PDF Print Ready Format)	1.5	✓
	List of Data for Applicants to Provide in MS Excel Format, Appendix C (On CD in MS Excel)	2.10.1	✓
	Identification of Proprietary Information and Trade Secrets and summary of Information for Public	1.13.6	Appendix G

Applicant's Name Little Susitna Construction Co.

